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ABSTRACT

Eight articles, published in various issues of "Education Week" starting in March 1994 and ending July 1995, track the work of eight educational reform design teams: (1) "Back to the Future" (Lynn Olson)--the virtues and values of the past in a modern context; (2) "A Welcome Change" (Ann Bradley)--instruction school management, and social services for students and their families at two South Central Los Angeles (California) schools; (3) "Adventures in Learning" (Joanna Richardson)--expeditionary learning builds on the principles of Outward Bound to teach about teamwork, leadership, and perseverance; (4) "The Outsider" (Mark Pitsch)--ways to categorize subject-area knowledge; (5) "Beyond Model Schools" (Lynn Olson)--a school system built around high standards that children can easily understand; (6) "A Community of Learners" (Meg Sommerfeld) students accumulate certificates of skills, either in traditional ways like tests or through local volunteer service; (7) "Connecting Technology" (Robert C. Johnston)--Co-NECT stresses technology, community involvement in school management, high performance standards, project-based learning, collaboration among staff, and frequent staff development; and (8) "Carry That Weight" (Debra Viadero)--Project ATLAS blends some prominent U.S. school reform approaches. (MAH)

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Breaking the Mold
An *Education Week* Occasional Series

Education Week

March 1994-July 1995

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Education Week
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This disk contains all of the articles and charts from Education Week's occasional series "Breaking the Mold," which ran from March 1994 to July 1995.

This occasional series tracks the work of eight of the nine design teams whose plans are funded by the New American Schools Development Corporation. The ninth of these programs, Roots and Wings, is described in detail in the last six articles included on this disk, which were published from January 1993 to May 1995.

The "Breaking the Mold" series was underwritten by a grant from the Pew Charitable Trusts.

BREAKING THE MOLD

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Education Week
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This article is the first in an occasional series that will track the work of the nine design teams whose plans are funded by NASDC.

Back to the Future

By Lynn Olson

Kesiah Poston recites the preamble to the U.S. Constitution from memory, in a small voice that barely carries across the room. Her 4th-grade classmates at Public School 106 in Indianapolis then stand up and recite it in unison.

Next, they burst into song, "Tell me the continents, tell me the continents, tell me if you can," followed by a listing of the major landmasses. Afterward, they spell each name aloud.

On a long ledge below the windows, dioramas depict scenes from the American Revolution. Pictures of George Washington and Abraham Lincoln hang from the walls. Student drawings of quilts evoke pioneer life. Another display highlights famous African- American inventors.

Welcome to the Modern Red Schoolhouse, a reform project that trumpets itself as reinventing "the virtues and values of the Little Red Schoolhouse in a modern context."

Of all the design teams funded by the New American Schools Development Corporation in 1992, the Modern Red Schoolhouse was the one with the closest ties to the Republican Administration then in power and its ideological heart.

Its chief sponsor is the Hudson Institute, a public-policy center based in Indianapolis that made its reputation analyzing national-security issues. Hudson's board of trustees includes former Gov. Pierre S. du Pont 4th of Delaware and former Vice President Quayle.

William J. Bennett, a U.S. Secretary of Education under President Reagan, served as chairman of the design team. Bennett, an outspoken proponent of private school choice, left the project last year when he formed Empower America, a conservative think tank based in Washington. Bennett once described the Modern Red Schoolhouse to The Washington Times as a "conservative plan" with the "three C's" at its core: content, character, and choice.

Yet, in many ways, the Modern Red Schoolhouse defies political or ideological labels. Some of its instructional approaches, such as multi-age homerooms and self-paced learning, would be considered "radical" by observers on both sides of the political aisle. In addition, labels don't reflect the compromises that have been struck as the theoretical design has run into the reality of the public schools.

"In the final analysis, I don't really see any partisan flavor to any of the NASDC proposals," Denis P. Doyle, a co-director of the project, asserts. "Individuals have party affiliations."

The New American Schools Development Corporation was formed in 1991, at the request of then-President Bush, to underwrite the design and replication of a series of "break the mold" schools. The approach was a novel one. It encouraged American businesspeople to finance the development of a range of high- quality blueprints from which schools could choose as they set about the hard work of reinventing themselves.

Many of the 11 design teams that NASDC selected for funding in 1992 shared common features. They ranged from a greater reliance on hands-on learning to the extensive use of technology. But what set the Modern Red

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Schoolhouse proposal apart was its unabashed focus on subject matter.

The essence of the Modern Red Schoolhouse is to promote the kind of "cultural literacy" first written about by E.D. Hirsch Jr. and then built on by Bennett during his years with the Education Department.

"The Modern Red Schoolhouse will insist on subject mastery as the only acceptable goal for all children," its brochure proclaims. "All students should master a common curriculum that encompasses English, math, science, geography, and history; skills needed to be successful in the workplace; and cultural literacy--the traditions and histories of our pluralistic society and of other nations and peoples."

Children in these schools will be expected to know things, not just possess skills. And high-stakes assessments will be integrated into the curriculum to insure that they do.

In the Modern Red Schoolhouse, students will proceed at their own pace, based on contracts that are negotiated between the teacher, student, and parents. Both the school day and year will be extended for at least some youngsters. Multi-age homerocms and thematic, interdisciplinary instruction will become common.

Computers, data bases, and electronic networks will help teachers manage children's learning, communicate with each other and with families, and "bring the world into the classroom."

In addition, there are new governance and organizational arrangements. Both teachers and students will attend Modern Red Schoolhouses by choice. Each school will have greater control over its curriculum, staffing, and budget. Community organizations will provide families with a support system that gets children ready for school and keeps them there, with the school acting as a broker. But the Modern Red Schoolhouse's motto is that the school should "do what it can do best" and not operate as a social-services agency.

"Though daring in many respects," the design team's proposal boasts, "the Hudson School, like its 19th-century forebears, is fundamentally a commonsensical institution. Its values will be those of the American mainstream. ...Its promises will be the kind that can be kept--provided everyone does what is expected of him."

Laurel Hall, the home of the Hudson Institute, looks more like an elite, private boarding school than anything remotely affiliated with public education. The large Gothic manor house rests atop 5 acres of real estate in the northeast corner of Indianapolis. Wood-paneled walls and plastered ceilings are complemented by painted and stained-glass windows and an enormous Jacobean stairway.

Through its corridors, hushed men and women in business suits wend their way to a private dining room, discussing welfare reform, nuclear disarmament, and Bosnian peace agreements.

Yet, it was no surprise to many that the Hudson design team secured one of the NASDC grants. James K. Baker, the chairman and chief executive officer of Arvin Industries in Columbus, Ind., had phoned Hudson's president, Leslie Lenkowsky, the day after President Bush announced the formation of NASDC to urge Hudson to participate in the competition.

Baker sat on NASDC's board of directors. He was also one of the Indiana businessmen who had asked Hudson to help draft the "COMMIT program" in 1991, a comprehensive education-reform plan that has yet to pass the state legislature. A centerpiece of the plan is the right of parents to choose among any public, private, or parochial school in the state at taxpayer expense.

Lenkowsky took little persuading. "Hudson has always been a hands-on place," he says. "For us, being client-oriented, being hands-on, taking ideas from theory to implementation and learning from them is something that we'd always done." Although not, he admits, in education.

In addition, the Cold War was ending, and Lenkowsky was busy repositioning Hudson to focus more on domestic policy and less on the suddenly less-lucrative defense-contracting field for its survival.

Seven school districts were recruited to join the design team, including five in Indiana; the Kayenta Unified

School District in Arizona; and the Charlotte-Mecklenburg district in North Carolina, whose new superintendent, John A. Murphy, was himself a leader in school reform. Later, Community School District 12 in New York City was added to the project.

An old friend of Lenkowsky's, Bennett had joined the Hudson Institute shortly after leaving his post as White House drug- policy chief in 1990. Among those joining Bennett on the project team were former Governor du Pont; Barbara O. Taylor, the director of the National Center for Effective Schools; and Chester E. Finn Jr., Bennett's former assistant secretary of education for research and an adjunct fellow at Hudson. Finn and Lenkowsky had known each other since graduate school and had both worked for Sen. Daniel Patrick Moynihan of New York as his education and welfare experts, respectively. Doyle, a well-known pundit and education observer and another senior fellow at Hudson, directed the project.

From the start, Doyle says, "We were clearly like-minded. There was no significant disagreement about either what needed to be done or how to go about doing it."

Many of the ideas in the proposal stemmed from work undertaken while both Bennett and Finn were at the Education Department, including the "What Works" series on educational research. The team also drew heavily on Winning the Brain Race: A Bold Plan To Make Our Schools Competitive, which was written in 1988 by Doyle and David T. Kearns, the Xerox executive who later served as deputy secretary of education.

"But the thing that knit us all together," Doyle says, "was our conviction that standards really make all the difference. And by standards, we meant measures of what kids knew and were able to do." The day the NASDC award was announced, Lenkowsky says, Hudson got word back that the state teachers' union was out to kill the project.

Garrett Harbron, the president of the Indiana State Teachers Association, says that's an exaggeration. "They imagined that," he contends. "We have some very grave concerns. But we never had, as a goal, killing the project."

Nonetheless, it was hardly love at first sight. Bennett had once called the National Education Association, to which the I.S.T.A. belongs, the "most entrenched and aggressive opponent of education reform" in the nation. Much of the COMMIT plan, which Harbron describes as a "Reaganesque education agenda," was anathema to the union.

The Modern Red Schoolhouse proposal called for a "differentiated teaching staff from a wide variety of backgrounds," "principals who operate as C.E.O.'s," and schools that could contract out for services. Each phrase raised red flags for the union and fears that collective-bargaining rights would be cast aside.

To top it off, Hudson had never asked the union to join in drafting the design. "We made a tactical error," Lenkowsky now admits, "by not reaching out to them in the process of writing it. So that was our fault."

Since then, Hudson has made it a point to meet with representatives of the I.S.T.A. and its local affiliates on a regular basis.

Nevertheless, it remains a wary collaboration. "We are suspending judgment," Harbron says. "We're trying to monitor it. It's been interesting that, as we've talked to the teachers that are involved, some of them--who a year ago were saying, `Gee, maybe we were being alarmist about this,' and `Maybe we ought to give Hudson a chance,' and so forth--are now saying to us, `Hey, you were right all along.' And many of them are not as enamored of it as they were to begin with."

If what Harbron says is true, it isn't immediately obvious in visits to two of the Modern Red Schoolhouse sites: I.P.S. 106 in Indianapolis and Central Elementary School in Beech Grove, just south of town.

After spending a year closeted away in a planning phase that included few teachers and principals, the design team is now knee-deep in implementation in six elementary schools. Five are in Indiana; the sixth, in New York City. Charlotte-Mecklenburg also has 18 schools implementing pieces of the plan, but with less direct

assistance from Hudson.

So far, the most notable difference in these schools is their curriculum, which is largely based on the "core knowledge" series developed by E.D. Hirsch and his colleagues at the Core Knowledge Foundation in Virginia.

Hirsch argues that all Americans need to share a common foundation of cultural information and skills in order to communicate and function in a democracy. A sequenced curriculum for grades 1 through 6 describes that content in detail. Early in its planning process, the Hudson team alighted on Hirsch's work as the perfect vehicle for strengthening the academic substance of elementary schools. It was a surprise to Hirsch.

"The first we heard about this was through Education Week," John Holdren, the director of the Core Knowledge Foundation, chuckles. In 1992, the newspaper ran descriptions of each winning design team and its proposal. "I just remember Don Hirsch coming in and saying, `John, do you know anything about this?'" Holdren recalls. "And I said, `No. Do you?'"

Hudson officials called soon after, and staff members at the Core Knowledge Foundation agreed to act as informal consultants to the project.

Today, the influence of Hirsch's work is evident as you walk through the halls of I.P.S. 106, the Robert Lee Frost Elementary School, in northeast Indianapolis. A square, two-story building, it is plunked down in the middle of an affluent residential neighborhood once known as "Pill Hill," after the many doctors who lived there. Only a half-dozen of the school's 320 students, however, come from the immediate neighborhood. The rest are bused in under a "controlled choice" plan. Sixty-five percent of the children who roll through the doors each morning are black. Sixty-eight percent come from families poor enough to qualify for free or reduced-price school lunches.

In years past, these children would not have studied Babylonian civilization, the history of ancient Egypt, or the Great Wall of China. But that's all changed. On the door of Roberta McClendon's 5th-grade classroom is a large sign saying, "Welcome to Mount Olympus." Inside, several students eagerly explain some of the work they did to study the Trojan War. A large wooden horse, its legs unattached, sits forlornly against the wall.

As part of the unit, students drew scenes from Greek mythology, made shields for the battle, and fashioned masks of the Greek gods. Each student adopted a Greek god and described his or her attributes. They then invented a god of their own that combined some of those qualities. "My god was the god of the underworld," Erskine Black explains. "His nickname was Pluto."

"I adopted Apollo," says Dewars White, "because he was Zeus's son."

"It's more interesting," chimes in Brittany Keller, "because it's better than just reading out of a regular old book." Agrees Dewars: "And you learn things that you didn't know. We did activities more with partners."

McClendon, who has taught 5th grade for the past 17 years at I.P.S. 106, says, "This curriculum reminds me of what those academically talented kids used to do back in the 70's."

Down the hall, in Nicki Bowers's 2nd-grade classroom, students are beginning a unit on the ancient civilizations of China. They listen to a story about the Great Wall that describes it as being five men tall, six horses wide at the top and eight at the bottom.

Then Bowers--a second-year teacher--hands out Play-Doh, clay, toothpicks, coins, and plastic connecting cubes. She asks the children to work in groups and reconstruct a portion of the wall. "If there's anything else that you can think of in the room that you canuse for measurement, that's fine," she says. The 15-day unit will also cover such topics as the Han Dynasty, Confucius, ancestor worship, and major points of Chinese geography.

Hirsch expects schools to devote 50 percent of each day to the core-knowledge sequence. But he does not prescribe, or even recommend, particular teaching methods. Part of what should set Hudson Schools apart

from others affiliated with the foundation are its standards, assessments, and pedagogy.

At the heart of the curriculum are something known as "Hudson units." These are written by teachers at each school, often in teams. In designing the curriculum units, teachers specify which pieces of the core-knowledge sequence will be addressed. They also incorporate state or local curriculum standards and what are known as "Hudson standards."

The standards--in history, science, mathematics, English, and geography--establish what students should know and be able to do in the 4th, 8th, and 12th grades. They were developed by representatives of the participating districts, with help from outside experts. And they were designed to be beyond the current reach of most students. The Advanced Placement examinations served as the initial benchmark for the standards.

Compared with the core-knowledge sequence, the standards are generic and conceptual. They tend to focus on the practice of a discipline more than on specific content.

For instance, a draft science standard for students at the upper level states: "Each student can illustrate the usefulness of scientific knowledge by choosing a technological design, explaining how it works, and predicting its beneficial consequences."

A history standard, also for the upper grades, says: "Each student can identify significant features of government and political process in the United States and summarize the historical development of these features, including federalism; the rise of the party system; the electoral, legislative, and judicial processes; and the Presidency."

Many of the Hudson units are interdisciplinary in nature. Each Hudson unit also includes activities for students to complete with their parents, as a way to bring families directly into the educational process.

Teachers are now using the units within the traditional, age- graded structure. Instructional methods also tend to be fairly traditional. But over time, the goal is to free the Hudson units from these moorings. Instead, students would progress through the units at their own pace. They could also learn in different ways--as long as they mastered the skills and knowledge described in each unit.

In essence, the units are designed to be measures of "accomplishment," rather than of time spent in class. And schools are attempting to sequence them into a series of building blocks that would prepare students to meet the standards.

At Central Elementary School in Beech Grove, the walls are festooned with the products of various Hudson units. There are computerized drawings of the U.S.S. Constitution. Examples of cuneiform writing from Babylonian days. Time lines for the Civil War. And lovingly made reproductions of Egyptian pyramids, cartouches, and mummies.

Beech Grove is a predominantly white, blue-collar community of 13,000 that abuts the southeast corner of Indianapolis. Its largest employers are an Amtrak repair factory and a local hospital. Central Elementary includes students in grades K-2. South Grove Elementary School, for grades 3-5, is also implementing the design.

Kit Collins, Central's round-faced and voluble principal, says the school has substituted content for pablum. Collins particularly remembers one day before the Modern Red Schoolhouse began when he decided to sit down with the basal reader that students were using in language arts. "There were stories about dandelions," he says, "a lot of cute little animals talking to each other. But there was nothing in there to remember."

"Now," he says proudly, "there's something to remember." Mary Ann Melbert, a 1st-grade teacher and the president of the Beech Grove Classroom Teachers Association, puts it this way: "The children are just starved for something besides skills."

Lisa LaFavers's 2nd-grade classroom is abuzz with activity. The walls are plastered with children's art and

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examples of their handiwork hang from the ceiling. A row of log cabins built of pretzel sticks, cardboard, and pint-sized milk cartons parades down one table.

This week, the children are finishing up a Hudson unit on American Indians. Their current assignment is to use traditional Indian hieroglyphics to write a story in pictures. LaFavers encourages them to create a legend or folktale that might have been told by a member of the Sioux or Apache nation. Some of the youngsters work in groups; others alone. One small boy sits under a table in the math center, surrounded by chairs.

LaFavers, who has been teaching for only two years, says the Hudson units are "easier for me, because I don't think I'm real set in a traditional form. It's not stifling."

"At least my kids are more actively involved," she adds. "And they're much more inquisitive and excited. I think you see a lot more student-generated work."

But the quality of the teacher-written units varies widely, schoolpeople admit. So does the extent to which teachers are adopting new teaching strategies or integrating the units with basic-skills instruction. Many teachers, for instance, still teach basic skills in the morning and core knowledge in the afternoon.

Sally B. Kilgore, who joined Hudson as the project's co-director last September and is responsible for much of its day-to-day operation, says, "We did not know how many more opportunities teachers needed to learn different pedagogies."

Officials at the Core Knowledge Foundation, which typically works with individual schools, also worry that Hudson may be driving the reforms too heavily from above, and that all teachers may not have bought into the curriculum and standards.

Hanging over everyone's head is the state's standardized-testing system. Several teachers allege that the constant pressure for students to perform well on these tests has driven them to retain existing textbooks and worksheets and to keep a separate time for basic-skills instruction. In contrast, Hudson maintains that teaching skills cannot be divorced from subject-matter knowledge--and that content and process are inextricably linked.

Hudson is now working on an assessment system of its own. When completed, it will include two kinds of measurements.

"Capstone units" will be built directly into the curriculum. They will look much like regular Hudson units. But, as part of the units, children might be required to conduct investigations, prepare reports, give speeches, or complete other activities that exhibit their mastery of a number of Hudson standards.

The products from these units will become part of a child's ongoing portfolio of accomplishments, which will be stored on a computer. Teachers will determine when students are ready to complete a capstone unit based on their mastery of certain prerequisite skills.

Once students complete a number of capstone units, they are ready to sit for the "watershed assessments." These subject-specific exams will include both traditional multiple-choice items and open-ended essay questions. They will be offered at least three times a year to students who have mastered the standards in one of the three instructional divisions into which Hudson Schools will be grouped--primary, intermediate, and upper. Students will have to pass the exams to move from one division to the next and to earn a diploma.

Theoretically, Kilgore says, "Students should not be failing these watershed exams, because they should be taking them when they are ready to take them."

Both the capstone units and the watershed assessments are being prepared with the assistance of an outside assessment firm, Advanced Systems Inc. And they will be used in common across all Hudson Schools.

The design team's hope is that the assessments will provide students with a marketable credential, equivalent to an International Baccalaureate diploma. In theory, states and school districts would recognize the standards

as so high and distinctive that they would allow Hudson Schools to waive existing testing requirements.

But the risks for Hudson are substantial, starting with whether it can develop high-quality assessments with limited funds. There's also the question of why the project would go through the expense and difficulty of developing its own exams, when so many others are doing so. The New Standards Project, for example, is spending upward of $30 million to develop a new series of high- quality assessments.

Kilgore says the design team had hoped to piggyback on existing measures but couldn't find any it liked. "Given that we were standards-driven," she says, "we couldn't go much further without making that investment." Advanced Systems--which also helped design the Kentucky and Maine assessments--is in the process of holding meetings with Hudson teachers to review sample test items and develop new ones.

But not every teacher is comfortable with the notion of such high-stakes tests. Claudia Hoone teaches at I.P.S. 58, the Ralph Waldo Emerson School, which is also implementing the Modern Red Schoolhouse design. "I'm truly concerned about a test that will cause kids not to go on," she says. "A high-stakes, test-focused curriculum is not what I want to teach."

Amy Luker, who teaches 2nd grade at I.P.S. 106, this winter helped review some of the draft mathematics and science items for the primary level. "I was blown away by the math," she states. "There was so much reading. They kept saying, `That's the type of child that we want.' But I just kept saying to myself, `What about the poor reader?'"

Hudson's curriculum also remains controversial. Some think that Hirsch's lists are too constraining and specific; that they encourage "rote learning," rather than deep knowledge. Many African-Americans, in particular, have criticized both the core- knowledge sequence and the other curriculum sources that Hudson is drawing on as too "Eurocentric."

Last year, a group of prominent African-Americans in Indianapolis met with Hudson to voice their concerns. Theresa Turner, an employee of the National Education Association who works with its Indianapolis affiliate, says, "There were some grave concerns that E.D. Hirsch's Cultural Literacy was not consistent with African-American-centered information and also that the James Madison curriculum [which will form the basis of Hudson's work in the upper grades] reinforced the whole notion of a Western civilization being preserved, more so than teaching from a perspective that reinforced diversity and inclusion." That debate is still going on.

Yet, parents from diverse backgrounds seem to like what they see so far. Karen Brezik, whose son Danny attends 3rd grade at Central Elementary, says: "It's neat, because not only are the kids excited about what they learn, but they remember it. My son never came home before talking about what he does in school."

Carmena Mackey, whose son Ian attends I.P.S. 106, says: "At first, I thought it was too hard; he'll never get it. I guess I'm speaking as an overprotective parent. But children learn. Ian, in the 5th grade, is getting exposed to a lot of literature ... a lot of geography ... that I was exposed to in the 6th, 7th, and 8th grades."

Teachers also say that Hudson units are leading parents to become more involved in school activities. Hudson has developed a booklet for parents on getting their children ready for school. Each school is supposed to help form a preschool consortium to prepare at-risk children for kindergarten. In some cases, the districts also plan to offer public preschool programs.

At the middle and high school levels, Hudson plans to use as its starting point James Madison High School: A Curriculum for American Students, developed by the Education Department during Bennett's tenure. Like the core-knowledge sequence, it is based on the notion that all students should graduate from high school with a "shared body of knowledge and skills, a common language of ideas, [and] a common moral and intellectual discipline."

The design team originally planned to begin work in a handful of middle and high schools last fall. But those aspirations were put on hold, in part because of funding. In part, too, observers say, because Hudson bit off more than it could chew. NASDC awarded the design team $1.8 million in 1992-93 for planning. This year,

Hudson asked for approximately $6.5 million and received $4.7 million. Next year's figure has yet to be negotiated.

The money is less than Hudson had hoped for. And last summer, when NASDC was late in disbursing its funds, the design team scaled back on its summer training for teachers. "I think it substantially compromised where we are," Kilgore says.

Current plans are to conduct pilot tests of a few interdisciplinary Hudson units in two middle schools and one high school this spring, in Beech Grove and Columbus, Ind. A two-week workshop this summer will help teachers begin writing additional curriculum units for 6th and 9th graders in the participating schools. Each school will also be asked to design a three-year plan that will lead to the schoolwide adoption of the Hudson standards.

But progress has been slower and more controversial than in the elementary schools. Rebecca Rehbein teaches world history and economics at Columbus East High School, which will begin implementing the design next fall. "No one really has a clear, overall picture" of how the design will work in the compartmentalized, regimented world of the high school, she says.

Even Kilgore is a little fuzzy. Hudson Schools, she says, will look like "inventive, academic high schools." But how much of the teaching will be interdisciplinary, and what the future holds for subjects like vocational education, is uncertain.

Moreover, many key features of the Modern Red Schoolhouse remain to be implemented.

The deployment of new technology, self-paced learning, multi-age homerooms, and preschool consortia are all scheduled to come on line this spring and fall.

Until recently, NASDC's precarious financial condition prevented most of the design teams from installing new technology in participating schools. The six elementary schools participating in phase one of Hudson's design are scheduled to begin installing their new computers and communications lines this spring. Over the life of the design, every teacher, administrator, and professional staff member is supposed to receive a computer and a telephone. And there should be one computer available for every six students.

The technology is central to one of the greatest challenges facing the design team: how to move from a graded structure, in which students progress on the basis of chronological age, to one where students progress at their own pace, based on mastery.

"The focus will be more on what students are learning than how teachers are teaching," says Alan Fraker, a curriculum consultant to the project, "because there's no single teaching mode that works for all kids. So, one student in a Modern Red Schoolhouse might be two or three years ahead of the student in the next seat in the study of history and might be cranking out an in-depth project, while another group of students is over in a corner listening to a mini-lecture on the Industrial Revolution. But the idea that each student has to be on the same page of the book at the same time ought to be an anachronism."

Beginning next fall, teachers at the six elementary schools will negotiate "individual education compacts" with students and their parents. The contracts will be entered into the same computer network that contains students' assessment portfolios. The length of the contracts will vary, based on a student's age and individual needs. But, in general, they will provide an educational road map: spelling out measurable cognitive and behavioral goals for students; identifying the responsibilities of students, parents, and teachers; setting milestones for mastery of the material; tracking a youngster's progress over time; and identifying any special assistance or services that a student needs.

The six schools are also scheduled to begin implementing multi- age homerooms next fall. Students and teachers in these homerooms will stay together for several years to provide greater support and stability for children.

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Hudson has promised the changes will be made in small, incremental steps. But the anxiety level among teachers is running high.

"I still think it's important that a teacher is there to teach," says Nancy Wilson, a 3rd-grade teacher at South Grove Elementary, "and I do not think that it is feasible to have 20 children doing 20 different things and provide adequate instruction. Nor do I think putting 20 children in front of a computer can substitute for teaching."

At I.P.S. 58, a few teachers forged ahead with some multi-age groupings in grades 3 through 5 this year. But the decision was a controversial one that was not particularly encouraged by Hudson. Teachers there are also worried about getting all parents to negotiate individual education compacts. Many parents there have not participated in the parental activities built into Hudson units.

Even Hudson has become more circumspect about the wisdom of multi-age groupings. "Research evidence just doesn't support it beyond the social values," Kilgore says. "We'll take that one slowly."

One key to helping children meet Hudson's new, higher standards will be providing additional learning time for children who need it--either by extending the school day or year. Hudson will take its first crack at that this summer. Teachers will be asked to identify students who have progressed slowly through the Hudson units, and volunteer mentors will be trained to work with them over the summer. Ideally, the mentors could also work with children whose parents are unable or unwilling to negotiate individual education compacts.

But what has gotten the design team most discouraged are not instructional changes but changes in the governance and management of schools.

Hudson Schools are supposed to operate "autonomously from district control." That means that principals--and their faculties--would have more power to hire staff members, expend resources, and establish school schedules. Students would attend the schools by choice. And Hudson would establish parent- information centers to help families make such decisions.

Lenkowsky likes to refer to the design as "COMMIT writ small." Its purpose, he says, is to provide public schools with the "level playing field" that would enable them to compete with each other and with private and parochial schools.

So far, however, autonomy has been slow in coming. Consultants from Arthur Andersen & Company, one of the design team's partners, have spent the last month helping schools develop plans for the kinds of autonomy they actually want. Each school will then negotiate those changes with its school district and union.

But as one Indianapolis teacher, Judy Carlile at I.P.S. 58, notes: "We are two schools out of 84 who are trying to become more autonomous than the others. Right now, it's a difficult struggle."

"Autonomy makes me worried," agrees Sara Hindman, the young, energetic principal of I.P.S. 106, "because I just don't see it happening. We are a school that is part of a larger system. There are so many entrenched procedures, and I've hit my head up against the wall a couple of times and been slapped back a couple of times. I'm not disillusioned yet, but I'm becoming a little bit skeptical."

Teachers at the school, for example, wanted to use their allocation for state-adopted textbooks to buy materials needed for Hudson units. But they were told they would be reimbursed only for items on the state-approved list. Hindman wanted to coordinate the schedule of specialists who come into the school, so that teachers would have common planning time. But she was told there wasn't the latitude. The school would also like to do something as simple as buy materials without going through the central office.

All of the participating districts are moving toward site-based management and school-based budgeting at different rates. But in Columbus, says Beth Stroh, the site coordinator for the school district, "Teachers by consensus said they were not comfortable with issues like the termination of staff, formal evaluation of their peers, and selecting people to be transferred."

Kilgore worries that the project will be "most compromised" on the autonomy issue, unless it can change state laws. In North Carolina, for example, when Charlotte-Mecklenburg wanted to reconfigure the use of teachers' aides in the primary grades, it required a legislative act.

Meanwhile, the unions have been watching and waiting to see if Hudson will push any changes that would threaten collective bargaining contracts. The biggest concern so far has been whether teachers are adequately reimbursed for the hours they've put into the project.

Like some of the other NASDC contractors, the Modern Red Schoolhouse is pinning some of its hopes on the passage of "charter schools" legislation in states. Such laws enable some public schools to operate under contract, with substantial autonomy from state and district regulations. It's also unclear whether all Hudson Schools will eventually become schools of choice. Beech Grove, for example, has only one school for every grade level, so choice isn't possible in practice. Other districts already have, or are moving toward, some form of public school choice.

Nor is it clear where Hudson Schools fit into the long-term plans of some of the participating districts. Michael Copper, the associate superintendent of the Bartholomew Consolidated School District in Columbus, says: "We have 11 elementary schools, two middle schools, and two high schools. Ten thousand students in a Midwestern community of 35,000. ... We have lots of programs going on. The Modern Red Schoolhouse is one of them."

What that means about the prospects for replication is uncertain. Hudson plans to establish a permanent unit to assist schools and communities that are interested in replicating its design-- creating, in effect, a network of Hudson Schools. But, so far, it has avoided taking on larger issues related to state policy.

What the project has done, most agree, is give teachers and principals the security to step out on a limb and try something new. It has also offered students what many view as a more challenging, demanding curriculum--with children rising to the occasion.

"What Hudson has done for our school," says Claudia Hoone of I.P.S. 58, "is blast everybody out of a rut. But saying that, there's a tremendous sense of unbalance. Nobody knows where we're going to land."

The problem now is time. Time for teachers to make the changes that are required, without sacrificing an overwhelming slice of their personal lives. Time for the project to bring on line all of the changes that it has promised NASDC this spring and fall, without collapsing under its own weight.

Kilgore, a smooth-talking Texan who worked in the Education Department under Bennett, bears little resemblance to her often surly toned former boss. Where Bennett is combative, Kilgore is more pragmatic and open to compromise. A sociologist by training, her primary interest is in how schools function as social organizations.

Kilgore is well aware that many people have typecast the Modern Red Schoolhouse as the lone conservative representative among the NASDC design teams. But, she adds, "I feel like we're an important part of the menu. And, even if we fail, that's important for us to know and them to know."

This winter, the Annenberg Foundation gave the New American Schools Development Corporation $50 million to support its ongoing efforts to create "break the mold" schools. This article is the first in an occasional series that will track the work of the nine design teams whose plans are funded by NASDC.

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A Welcome Change

By Ann Bradley
Cudahy, Calif.

There was a time, not too long ago, when professional development at Elizabeth Street School amounted to briefing teachers on how to use a new set of textbooks.

The school, in this tiny town southeast of Los Angeles, hadn't caught the wave of education reform. Teachers handed out worksheets and lectured to students seated in carefully aligned rows. Quiet was a prized commodity.

The staff spent most of its energy coping with the nearly overwhelming conditions at Elizabeth Street. With 1,600 students, it was one of the Los Angeles Unified School District's first year-round schools. More than three-quarters of its students weren't fluent in English. Most came from low-income, immigrant Latino families that were constantly on the move.

Today, the school is no longer on its own. Rechristened the Elizabeth Street Learning Center, the school is in its second year of an ambitious project funded by the New American Schools Development Corporation. The corporation--a private, nonprofit organization founded by business leaders during the Bush Administration--is backing nine design teams that are inventing "break the mold" schools across the nation.

The designers who put together the learning-center concept hope it can serve as a model for urban education. The plan calls for rethinking instruction, school management, and social services for students and their families at two schools: Elizabeth Street and Foshay Middle School in South Central Los Angeles, which began implementing the design this fall. (See "Learning By Design.")

In the summer of 1992, the Los Angeles Educational Partnership, a nonprofit organization that administers several programs to improve schooling in the city, won a $2.5 million grant from nasdc to spend a year fleshing out its reform ideas. Initially, the designers hoped to open the first learning center in a new school, perhaps in a commercial space.

But when it became clear that starting from scratch would take too much time, they began scouting existing Los Angeles sites to find a school big enough to expand to house kindergartners through 12th graders. Elizabeth Street won by default. The elementary school, on 16 acres in a residential neighborhood, was already scheduled to add middle grades and had enough land to accommodate senior high students.

What's more, the district offered no better testing ground for change: Elizabeth Street was struggling to educate a difficult population with traditional approaches that didn't seem to be working.

"It was the best learning laboratory we could have asked for," recalls Judy Johnson, the program director at the Los Angeles Educational Partnership. "And it's also the toughest work in the whole world."

Teacher Appreciation

The key to success at Elizabeth Street, the managers of the project say, is providing its teachers with rich and varied professional development to help them change their instructional approaches.

The teachers at the school, briefed about the learning-center design, voted nearly unanimously to participate. In doing so, they were buying into a package of reforms designed by knowledgeable outsiders.

"Everyone voted eagerly, but to say that they fully understood what they were voting for is a misnomer," says Peggy Funkhouser, the president of the Los Angeles Educational Partnership. "This was a very traditional faculty with not a whole lot of dreamers."

In addition to helping teachers dream--and giving them the tools to make their dreams come true--the project must cope with the sheer size of the schools. Creating a true learning community, the designers felt, would be best accomplished by having children of all ages on the same campus.

This year, Elizabeth Street has more than 90 teachers and 2,600 students in prekindergarten through 10th grade. In two years, it will add 11th and 12th graders to the rolls. Foshay Learning Center has 115 teachers and 2,700 kindergarten through 10th-grade students; it's also scheduled to add two more grades.

The logistics involved with such large schools are further complicated because they are on year-round calendars, with one- third of their teachers and students off campus at any one time. The high schools, for instance, will never enroll more than 300 to 400 students at a time. Elizabeth Street high schoolers will attend its health academy, while Foshay students go to its finance academy. Both programs are designed to prepare graduates for work or further education after high school.

When the project began, the faculty at Elizabeth Street included many veteran teachers and some novices with emergency credentials. The atmosphere, many teachers said, was stifling. "This school needed uplifting," recalls Linda Stewart, who has taught at Elizabeth Street for 14 years. "We were all slowly dying. You just did your own thing."

The opportunity to introduce a cutting-edge educational design was an unexpected boon for teachers, adds Mary View-Schneider, another veteran teacher. "We would not have gone out and sought it with this staff and principal," she says bluntly.

Beginning in the spring of 1993, with $3.5 million from nasdc, teachers were barraged with professional-development opportunities. The school also used the money to buy state-of- the-art instructional technology and notebook computers for every teacher on the staff.

The contrast with past attitudes toward teachers' development couldn't have been starker. It used to be "Find it yourself, pay for it yourself, and do it on your own time," View-Schneider recalls.

Peer-to-Peer Training

The designers of the learning-center concept had a clear idea of the kind of teaching and learning they wanted to see at the school. Teachers were to work together to devise an interdisciplinary, thematic curriculum. Children would be combined in multi-age groups of two or three grade levels. Clusters of four or five teachers would work together to plan and teach lessons.

Instead of lecturing and assigning work from textbooks, teachers would be encouraged to try cooperative learning, to give students more hands-on experiences, and to infuse reading and writing throughout the school day.

Although by now these concepts are quite familiar, at first they were a dramatic departure for most Elizabeth Street teachers. Many prided themselves on running well-controlled, quiet classrooms where they--not students--played the starring role.

To ease the transition, the Los Angeles Educational Partnership devised a plan for exposing the teachers to the concepts over 20 full, paid days. First, groups of teachers attended a retreat at a comfortable hotel to discuss the components of the learning- center design.

There, they heard from teachers who had been trying some of the same techniques at other Los Angeles schools. At a workshop on multi-age classrooms, for example, Elizabeth Street teachers could ask their

colleagues detailed questions about how the educational theory actually worked in a real classroom.

Encouraging teachers to learn from each other was the most frequently used training strategy, says Johnson of the educational partnership. That philosophy also sent Elizabeth Street teachers into other schools across the district--schools serving children similar to theirs--to see teachers in action. The visits made the new ideas and approaches concrete, Johnson says.

"The usual excuse for not doing something new is the lack of belief that your kids would really benefit," she explains. "When you see children very much like the ones that you work with really being successful, it's much more convincing and makes it worthwhile to try."

After observing lessons, the Elizabeth Street teachers again had time to question the demonstration teachers. In this way, groups of about 25 teachers were exposed to new kinds of assessments, whole-language approaches, and new strategies for teaching mathematics and science.

To provide support back at Elizabeth Street, the educational partnership also selected four lead teachers to help their colleagues find information, present demonstration lessons, plan curricula, and connect teachers with resources. The school also now has a "curriculum toolbox" of materials and information for teachers.

A cadre of teachers with expertise in such areas as the national math standards or bilingual instruction is available to visit Elizabeth Street teachers. Lead teachers help faculty members set up such visits.

Teachers from another elementary school also trained Elizabeth Street teachers to use the wealth of technology purchased for the school. The school's Product Development Center--a room jammed with computers, videocassette recorders, videocameras, and videotape editing machines--provides Elizabeth Street teachers with a variety of high-tech tools for learning.

Eventually, after teachers have built a solid foundation of knowledge and have developed their capacity to perform, they're expected to become expert in a particular area. In this way, the school's teaching teams will include, for example, faculty members who are knowledgeable about teaching mathematics or social studies. Some teachers might also be experts in assessment or in strategies for helping students acquire a new language.

Gradual Changes

For Stewart, who describes herself as "a teacher who wanted to hear myself talking," observing other classrooms convinced her of the need for change at Elizabeth Street. "I saw organized movement and learning taking place," she recalls. "The children knew everything that was going on in the classroom."

At this point, Johnson says, it's too soon to see much impact on students. "What we have," she says, "are nice stories of change worth patting ourselves and the teachers on the back for."

Now, the project's managers estimate that clusters of teachers are using thematic instruction 40 percent of the instructional day. They're most likely to do so in language arts and social studies.

The infusion of technology also has gone smoothly. Parents can visit the Product Development Center to learn to use computers alongside their children. And some teachers say that having a computer in their classroom helps motivate children who once seemed indifferent to schooling.

Of course, the project designers have hit some rocky points, too. Not every teacher has participated in the training, and some are clinging to traditional ways. But the number of such teachers is small.

Principal John Kershaw, who has been at the school for seven years, says he believes everyone at Elizabeth Street has changed. "Some have been quantum leaps and others have been a little bit," he explains. "I don't think you can push, but you can encourage and support the best you can. Hopefully, the other folks will come along."

In July 1993, the start of the new school year for Elizabeth Street, teachers felt ready to plunge into what they had learned. They decided to begin multi-age classrooms, even though the project managers did not believe they were ready.

In retrospect, that might have been a mistake, says Anola Hubbert, a lead teacher. Teachers hadn't had enough time to absorb all the components of the learning-center model, she explains. "So many things were being put before us," she recalls. "We got so excited, we probably entered into a lot of things more quickly than we should have."

Teachers of 7th and 8th graders also complained that they didn't have enough common planning time to devise interdisciplinary lessons and adjust to teaching more than one grade of students.

Burt Snyder, a social-studies and history teacher, says his team did "a little bit" of interdisciplinary teaching last year. "We were gung ho at first," he says. "We went whole hog the first semester, and things went pretty well for four to six weeks. Then it had run its course."

Interactive Lessons

In the side-by-side classrooms of Bette Stephens and Jan Miracle, who teach together as part of a cluster, a visitor can begin to see the type of education that the learning center is trying to foster.

Their students are studying immigration--a potent topic in the lives of children whose families are immigrants themselves. The lessons began with discussions of the children's own experiences. Teachers helped students see parallels between the reasons their own parents left Mexico and Central America and the reasons that people immigrated to settle the British colonies.

Then the students began studying the westward movement, mapping the routes pioneers took across the Plains.

On this day, groups of students are making butter, writing their own stories on computers, and reading books about the settlement of the West.

Some of the students' work, gathered into portfolios, can be stored on teachers' lap-top computers--including reading logs, computer-generated illustrations, and science lessons. An eager student quickly calls up her portfolio on a classroom computer. It includes a short autobiography titled All About Me, by Sandra Cobos. For the lesson about pioneers, she's written and illustrated Sandra's Story of the West.

Miracle, who has taught at Elizabeth Street for 15 years, says she has adjusted well to the many instructional changes. Before the school became a learning center, she says, the only professional development she had was when the school's curriculum committee picked a new textbook that teachers were taught to use.

At first, she says, she wanted the "experts" to tell her how to teach. But as she's grown more confident, Miracle and her colleagues have realized they have a lot to offer. "We're still good teachers," she says. "We're not totally changing the way we're teaching."

Stephens, a 20-year veteran, says she was more hesitant about change than some of her colleagues. Some of the schools she visited, she says, were "idealistic settings" not relevant to life at Elizabeth Street.

"We still have our certain beliefs that we will always keep," she asserts. "I require a certain amount of quiet at times."

Feature Attractions

The learning-center design has attracted new teachers to Elizabeth Street, many of whom said they were frustrated with conditions at their previous schools.

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"I see myself as a teacher-researcher here," said Eduardo Munoz,no accent. a 10th-grade English teacher hired from another Los Angeles high school. "That means constantly reading, being innovative, searching, evaluating, and sharing with other colleagues what I'm doing in the classroom. I see myself as part of a larger community."

For Monique Lopez, coming to Elizabeth Street meant finding support for the teaching methods she'd been trying alone at another school. "It was like fighting an uphill battle. I felt I wasn't being supported by my peers," she explains. "Here, it's a given that you're doing what the latest strategies and studies are saying to do."

Teachers also can take comfort in knowing that the learning center is actively addressing some of the daunting conditions that make it difficult for their students to learn.

Cudahy, a community of 23,200 people packed into 1.1 square miles eight miles southeast of downtown Los Angeles, was founded as a rural ranch area. Its large lots, once home to livestock, are now jammed with modest stucco homes and apartment buildings. Still, many families face a housing shortage and can pay $500 a month to live in a motel room or garage.

The city also is relatively cut off from the social services that its young, low-income, Spanish-speaking population desperately needs. The Elizabeth Street Learning Center is expected to play a crucial role in linking students and their families with helping agencies. The school also is considering opening a clinic in partnership with a local hospital.

Eventually, all of the students at the two learning centers will be linked with people who will monitor their school progress and help them through difficult times. The plan calls for groups of about 30 students of all ages to be linked with three adults, who might be teachers, community members, or businesspeople. Within each group, students will be paired with older "buddies," says View-Schneider, who is coordinating the support system.

The groups, which will meet on a regular basis, will work on school-related projects as well as make time for dabbling in arts and crafts, playing games, and reading in pairs. Over time, the groups are expected to stay together, providing a sense of responsibility and stability for students.

"The whole community is there to work as a family," explains Roberta Benjamin, the project director. "It's like the early frontier schoolhouse--returning to that concept."

Already, Elizabeth Street Learning Center has begun to serve as a hub for the Cudahy community. On any given day, about 150 parents can be found at the sprawling campus, a mixture of 1920's-era stucco buildings, 1960's additions, and new two-story buildings built around a vast concrete courtyard. Parents can take English as a second language, study computers, learn to sew or paint, and help with the many after-school programs offered for students.

Maintaining Momentum

For this school year, the learning-center project has received $4 million from nasdc. The bulk of the money goes for buying technology and paying for staff development at the two sites.

In the future, though, Elizabeth Street will have to figure out how to keep the momentum going without huge infusions of money. Last spring, teachers and parents were involved in the budget process, making decisions about spending more than $1 million.

View-Schneider, who is a lead teacher, says she's confident that the school can write grant proposals and make innovative use of the money it already receives. It's unlikely that Elizabeth Street's teachers will accept anything less.

"Students are relaxed and learning and having fun at school, and it's not recess time," Stewart says. "That said it all for me."

Learning by Design

The Los Angeles Learning Centers are intended to be a model for public education in urban, multiethnic communities. The core concepts behind their design follow.

* Collaborative decisionmaking, handled by a site-based management council made up of the principal, teachers, parents, and students.

* New instructional approaches, including teachers who stay with the same students for several years in multi-age classes and a schedule that provides time and opportunity for teachers to plan together.

* Using the community as a resource for teaching and learning.

* Comprehensive student assessments that improve performance and monitor school effectiveness.

* Thematic, interdisciplinary curriculum developed by teachers.

* An emphasis on the transition from school to work and postsecondary education.

* Advanced instructional methods that reflect cognitive theories of learning, intelligence, motivation, and individual differences.

* Continual learning by educators, who plan and share with colleagues and participate in extensive, ongoing professional development.

* Restructured school support services that are integrated and linked with community resources to help the school prevent and remove barriers to learning.

* Multiple advocates for each child.

* Advanced instructional technology that is integrated with instruction and curriculum.

Partners in the Learning-Center Design:

Atlantic Richfield Company
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Los Angeles City Mayors Office
Los Angeles Educational Alliance for Restructuring Now
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Adventures in Learning

By Joanna Richardson
Dubuque, Iowa

From this distance, the fat, cartoonish outline of the C-130 several thousand feet up looks like a clumsy bird hurtling through the clouds. Blink, and you might lose sight of the image for a moment in the afternoon haze. But down here on the ground, the young spectators lock their gaze on the dark blip--and don't let go. Tilting their heads back to extremes, they shade their eyes with one hand in mock salute. A few point up. Others sit on the ground, frozen in an open- mouthed `gee-whiz' expression as they wait for some sign from the Navy plane. One of the women who has accompanied these junior air-show enthusiasts to Du-buque Regional Airport stands planted on a grass strip near the runway. She lets out a long "ooooh" as her excited charges chatter over two faint objects that have just shot silently from the tail of the plane. They hover for a moment and then fall like ribbons through the sky. "That must be them! Here they come!" the woman says in one long breath. In a few minutes, she thinks, the "Leapfrogs"--the Navy seals parachute team--will come plunging toward land. A 3rd grader shoots a quick glance in the chaperone's direction. "It's not them," the girl says matter-of-factly. "They're just sending that out to test the wind direction before they jump. The plane will come around again." The woman nods a few times, as if she should have known this. The plane does loop back around, and the Leapfrogs do jump--right in front of the throngs of students who whoop almost loud enough to drown out the sound of chutes whipping in the wind. When the parachutists finally touch down, the children pummel them with questions about the life of a Leapfrog. Then it's off to check out the planes and helicopters on display around the concourse. As they climb in and out of the cockpits, the youngsters can't resist the impulse to reach out and touch the larger-than-life machines. After all, for the past two weeks, they've written stories about them, learned how they're made, studied how they work, and read about all the places they go. So the eager students run their fingers over every inch of metal they can. Some even grab the controls, as if pulling hard enough might actually result in liftoff. Because today, you see, the airport is their school. This is "expeditionary learning." In theory, it sounds like a simple enough idea: Get children out of the classroom, let them take more control of their learning, give them lots of time to test their ideas and fuel their natural curiosity, and organize their studies around central themes that make school more exciting, challenging, and real. Not so radical, maybe. But in practice, the concept of expeditionary learning turns the old lecture-and-drill method of teaching inside out. Its proponents say the approach breaks down the walls between traditional academic subjects by weaving science, social studies, and English lessons into projects on everything from flight to publishing. Instead of learning in 40-minute fits and starts, the less structured school day lets students and teachers be more spontaneous and creative. In the process, its architects say, students also learn valuable lessons about life. The school-based expeditions run about three to nine weeks and blend together several disciplines under a common theme. Students spend about 25 percent of their time out of the classroom--a big change from the periodic field trips of the past. The rest of their time is spent on hands-on classroom activities that require students to make connections between their studies and draw their own conclusions. Pieces of the curriculum are still taught in the traditional fashion. At Central High, for instance, many students take stand-alone reading and science courses in the afternoon. And the elementary schools usually offer math outside the time teachers set aside for expeditions. Teachers also take care to make sure expeditions at every grade level meet the district's expectations for teaching such basic skills as reading, writing, and problem-solving. But beyond that, schools design many activities simply to instill a love of books, the desire to learn, or the ability to work with others. At Table Mound Elementary, for example, students of all ages worked for several weeks on units related to transportation, flight, and space exploration. Throughout such units, a variety of field trips brought their studies to life: demonstrations of hot-air balloons, a helicopter landing at school, and, finally, a visit to the air show. In the end, some students took away new research, writing, and mapmaking skills. Expeditionary learning builds on the principles of Outward Bound, an outdoor-adventure program founded in England in 1941 by Kurt Hahn, an educator expelled from Nazi Germany. The program made its way to the

United States in the 1960's, touting its wilderness expeditions as a way to teach about teamwork, leadership, and perseverance. Outward Bound trips last up to three weeks and involve small groups in activities such as camping, rock climbing, and rope exercises. As the activities become increasingly difficult, participants learn to brainstorm on how to tackle problems together--an exercise that encourages both cooperation and self-reflection. Now, Outward Bound proponents insist, student expeditions like Table Mound Elementary's flight unit can help bring similar lessons to schools. By making learning more spontaneous and connecting it to the outside world, teachers can encourage students to discover that learning doesn't stop when the school bell rings. In 1992, officials from Outward Bound and Expeditionary Learning Outward Bound U.S.A., its partner in Cambridge, Mass., that oversees the project, competed with hundreds of other designers for a "break the mold schools" grant from the New American Schools Development Corporation. Nasdc, a private, nonprofit corporation organized by business leaders during the Bush Administration, is now providing funding to nine design teams-- like E.L.O.B.--carrying out their blueprints through 1995. After that, the teams will enter a two-year dissemination-and- replication period, when they are expected to require less outside support. Four Dubuque schools have embraced expeditionary learning: Bryant, Lincoln, and Table Mound elementary schools and Central High, an alternative school. Four "spirit schools" across the district have also adopted some features of the program, but the district--not the NASDC grant--is underwriting their projects. In addition to Dubuque, seven other expeditionary-learning schools are up and running in four cities across the country: Denver, Boston, New York, and Portland, Me. Schools in San Antonio, Baltimore, and Decatur, Ga., have also expressed interest in the approach, according to E.L.O.B. officials. But Meg Campbell, E.L.O.B.'s executive director, says the schools here have tackled more elements of expeditionary learning than their counterparts at other sites. For instance, the district is leading the way in using authentic assessments, one of the program's central features. A handful of teachers at the elementary schools are already making portfolio reviews the basis of their conferences with both parents and students. Now in their second year of operation, the elementary schools have also incorporated most of the other central features of the project design. (See "Expeditionary Learning by Design.") * The program's interdisciplinary curriculum is designed to make learning richer and link it to everyday decisions. Teachers weave technology, for example, through most of the expeditions at every grade level. But other subjects aren't so easy to work in. Most teachers continue to present mathematics, which they say is the most difficult subject to integrate, in an isolated block. "Traditionally in education, we have little pockets of learning-- 30 mintues of this or 40 minutes of that," says Nancy Bradley, the district's associate director of staff development. "And kids don't necessarily make that quantum leap from one isolated piece of learning to another. Now, I think they understand much more about how their learning connects to the real world and to other subjects they work on." * Teachers also stress character development throughout the curriculum. "How To Launch a Dream," one of Table Mound Elementary's recent mini-expeditions, featured a model-rocket project and other hands-on activities to teach about the importance of setting--and attaining--personal goals. But while schools want children to learn about both success and failure, Scott Gill, a school designer for the project, is quick to add that teachers must follow the rule of "guided discovery"--nudging students along in the right direction. "Sometimes, when we let kids fail in things that are significant, it ends up demoralizing them and knocking them down," he explains. "Then they're not likely to take risks again." * Throughout each expedition, students set aside time to reflect on their learning in daily journals. One entry in a 4th grader's journal written during Table Mound's flight expedition featured long descriptions about everything from the principles of flight to the history of the commercial airlines to the use of planes in World War II. * In keeping with the program's central features, teachers encourage students to share control over the curriculum. A learning experience is richer, the theory goes, when it includes personal challenge and an element of the unknown. "Kids are, in some ways, just paddling along and letting others be the leaders," Gill explains. "But we've said, no, the concept of an expedition is jumping in. We have to let kids know, `You have to pay attention because you're going to have to perform.'" So teachers encourage students to make daily decisions about how to approach an expedition. In the 4th-grade flight expedition, for example, students were allowed to rank a list of theme- related activities, including visits from flight instructors in the community, a field trip to the aviation center for research, and a variety of social-studies and science projects. Of course, this flexibility also means teachers often revise their plans for the next day based on their students' interests. For more than a year, the district has also been matching teachers with students, a practice called "looping." For example, 1st-grade teachers follow their students to the 2nd grade but then loop back to pick up another 1st-grade class, starting the two-year process all over again. The aim is to build trust and a sense of community, an environment much like "the old country schoolhouse," says Superintendent Marvin O'Hare, a longtime district administrator who recently assumed the city's top school post. Even though they have the same teacher for more than one year, students don't repeat expeditions. Instead, each expedition is geared toward a specific

grade level. Teachers can use these plans year after year, but they're expected to come up with new ones to add to the mix and share ideas from other sites. The time and planning involved in writing the expeditions has been both a professional windfall and a tremendous strain for teachers. "You cannot diminish the importance of the teacher and the teacher buy-in to make this a success," Lesley Stephens, the principal of Bryant Elementary, says. "It's a tremendous load for teachers the resources needed and the preparing for expeditions." Teachers were trained to write expeditionary-learning plans in the first and second years of the grant. Because an expedition can cross several disciplines, typically a group of teachers will come together to collaborate. But the writing process involves more than just coming up with interdisciplinary lessons and fun field trips. Teachers must make sure each expedition meets the district's strict curriculum expectations in each subject area. District officials and a handful of national education organizations review the plans, Gill says. What's more, schools have also asked teachers to defend their ideas before their colleagues, parents, and community members. Tammy Duehr, a 2nd-grade teacher at Table Mound Elementary, admits the work has been stressful, but she says the payoffs are worth it. "That's a key part of this," she explains. "The teachers are really getting to create." John Burgart, the district's associate director of instruction and the project director for expeditionary learning, says teachers seem to finally feel ownership of the curriculum. "For many years, we operated under the sort of `teacher proof' curriculum," he says with a hint of sarcasm. "Everything was packaged for them. Now, they really have to know the district's expectations and be a curriculum planner and developer." Most of teachers' planning and writing time falls over the summer and in mini-sabbaticals and release days during the school year. But many still complain that they don't have enough daily planning time to keep up with their flexible classroom--and field trip--schedules. On top of these in-service days, teachers and school officials juggle several other staff-development projects throughout the year, many of them sponsored by groups like Project Adventure or the Voyageur Outward Bound School in Minnesota, which are design- team partners for the national project. In fact, professsional development--on everything from assessment training to river rafting--has been the biggest expense under the grant. Of the $250,000 the district received for 1994-95, about $135,000 went toward staff-development purposes, including honoraria for teachers and pay for substitutes. Another chunk of funding has gone toward trips to help teachers write their expeditions. Last summer, for example, the district paid for a 5th- and 6th-grade teacher from Table Mound Elementary to travel to the U.S. Air Force Academy to learn about rocketry for an expedition on space travel. The expeditionary-learning approach has ushered in an "immediate, major menu of opportunities" for teachers, says Bradley, Dubuque's associate staff-development director. "You can imagine what a shift this is for teachers who used to beg just to drive to Des Moines for a conference." Despite the extra time and training involved in adopting the new approach, expeditionary learning seems to be taking hold. It's gone over particularly well in the elementary schools where the day already has a fairly loose structure and teachers are accustomed to blending several subjects together in their lessons. And, elementary teachers say, keeping their options open has always made sense: Sometimes they have to make a sudden change of course just to keep the children's attention. But expeditionary learning seems trickier to pull off at the high school level. There, teachers tend to be less collaborative, and academic requirements place all sorts of restrictions on how the school day gets organized. At Dubuque's Central High, an alternative school where about 35 of 170 students have severe learning disabilities, the staff was already accustomed to finding creative ways around the system. But the shift to expeditonary learning still left both teachers and administrators feeling overextended at times. "It was so hard last year we weren't even sure we'd make it sometimes," confides David Olson, Central's principal. "We did everything at once. So there was no falling back because all the old ways were gone." The school had to rearrange and open up blocks of time. The staff had to get comfortable with an interdisciplinary curriculum--a stretch for high school teachers accustomed to being "specialists." Teachers had to come up with new ways to teach a student body that has a tough time dealing with change. Some students are themselves parents, and many others are dropouts who had little success in more traditional schools. But the school finally hit smoother waters this year, Olson says, and the staff members seem excited and more comfortable in their new environment. Now, the day is divided so students spend a block of time in the morning on their longer expeditions, which weave together two to three traditional subjects. In the afternoon, their schedule looks more like a conventional high school student's, although teachers continue to follow the principles of expeditionary learning. Sue Schmuck, a physical-education teacher, says the new approach helped her refine her teaching style. "It really pushed me to have a good grasp of what I'm teaching," she says. "And I think the kids really see me in a different light now: I wasn't just having fun in the gym." But students are proving to be a tougher sell when it comes to expeditionary learning at Central High. Not only do the teenagers bring their own special circumstances to the alternative school, but like most kids their age, the high schoolers are skeptical of anything a teacher claims will be "fun." "Most kids will tell you they don't like expeditionary learning because it's more

work," Principal Olson points out. "Our expectations for their learning are higher. With all the changes, the kids can't just slide by." Jeremiah, who's come down to the river to do some fishing for his "Metric Sports" class, agrees. "Central used to be a slacker school," he says, keeping a close eye on his line. "It keeps getting harder and harder. But you learn more instead of sitting in class all day, which is what would make people want to drop out." Overhead, a train idles on the old railroad bridge that will carry it to Wisconsin or Illinois just across the Mississippi River. A couple of girls from the class sit and talk on a rock ledge while their classmates measure and weigh their catches or wait patiently to hook a fish. Metric Sports, a physical- education course with a twist, is designed to teach students the practical applications of metrics through physical outings like this fishing expedition. Tim Ebeling, one of the teachers who's brought the class here, takes the girls' obvious lack of interest in stride. "Some of the kids, when you get on their case about it, you lose them the next time" there's an activity, he explains. "We say expeditionary learning is challenge by choice." Still, some students just don't know what to make of the new ways. The fieldwork "just doesn't make sense to me," admits Ian, a burly student whose glasses and fuzzy beard make him appear older than he is. "We're more likely to smoke and goof off when we're out of school" for a project, he adds defiantly. But with time, Central administrators say students have come to appreciate--and even enjoy--the new approach to learning. Karol Cervantes, an 18-year-old Central graduate who now waits tables at Chi-Chi's Mexican restaurant while attending community college in nearby Peosta, says the emphasis on self-discovery brought her closer to her teachers, though she admits things were difficult at times. "The first semester, everyone was new at it," she says of the 1993-94 school year. "We barely had a clue what we were doing, and the teachers hardly had a clue. I had a hard time getting adjusted, and some of my friends dropped out because of the changes. But they went back this year." "More and more kids want to be at Central now," Olson says, "instead of looking at this as their last option for education." For proof, the principal points to the school's waiting list of a dozen students. One program feature that helped win over students at Central is service learning. What's more, the practical work experience also seems to go over well with parents who say they hope their teenagers will have a better shot at finding a job after graduation. Unfortunately, administrators say the service-learning component of the program has been hard to integrate. Sometimes, Gill admits, teachers have "had to contrive some things to get it in." At Central, for example, students help out at area businesses under a program that has no clear connection to their expeditions. But district officials say they've brought in consultants to help schools improve and expand on the service- learning connection. About a dozen Central students get credits for spending their mornings pitching in around the community under the "City as School" program. Most go where their interests lie, working at the local parks department, for example, or the community-access television station. Wendy Miller, a business teacher and a coordinator of the project, says the exposure to the workplace "has made the kids realize they can do more than they think they can. They always wanted to know, `What's in it for me?' Now, we're starting to see kids more willing to give of themselves." Miller and Olson say they've watched students who were once indifferent to school--where learning meant cracking books all day and turning in worksheets--finally become interested in something. Robert, a lanky 16-year-old from Central, is doing a five-week rotation at The Farmacy, a veterinarian's office and pet store downtown. He learned how to care for animals on the farm where he was raised, but he says he wants to find out more about the field. Robert does everything from prepping the animals for procedures to actually observing or assisting in surgery--an experience that made him a little woozy on the first and second go-round. His friend, Jason, who's come to meet him at the vet's office so they can head back to Central for the afternoon, works around the corner at Prescott Elementary School. An affable but intense 15- year-old, Jason says he has already singled out a handful of children there who he thinks may be headed for the same troubles he's had: a lack of focus in school and a tendency to act out. He's excited about trying to take them under his wing. He's started a basketball group and talks frequently with the school's social worker about other ways to get through to the children. The people behind expeditionary learning also had their work cut out for them when it came down to convincing the public of its benefits. Though support for the approach came from the bottom up--the schools expressed interest in the national proposal--some parents and others feared that it was simply something the district decided "to do" with the children, like a laboratory experiment. A small, fairly conservative city where almost all the residents are white and a majority are Catholic, Dubuque has a strong, well-supported network of parochial schools. Some parents of children in those schools, locals say, were among the harshest critics of the district's new initiatives. (A few parents in the expeditionary-learning schools were also critical, and some withdrew their children.) They painted expeditionary learning as a vague, outcomes-oriented approach that sacrificed the "basics" for such things as character development, despite the district's promise that expeditions would adhere to its core curriculum. According to a few parents, district officials and expeditionary- learning supporters seemed to have trouble getting their aims across, which only made the naysayers more skeptical. "I think they missed the boat early on, because people

didn't understand what it was," says Ed Zaccaro, whose children attend Table Mound Elementary. "People formed an image in their minds, and once that happens, it's hard to change it." The local criticism irked many teachers, who felt it showed how little trust community members put in their abilities. Duehr, the 2nd-grade teacher, says she was mystified that people "actually believed we'd leave the basics behind." Joe Dolan, her colleague who teaches 5th and 6th grades at Table Mound, adds, "I'm still teaching the things I always taught; I'm just doing it in a different way." Susanna Robey, the president and 18-year veteran of the school board, explains it like this: "Iowans are basic, down-to-earth people. They think, things aren't broken so why do you have to fix them? Well, they weren't broken, but we made them better." Some community members also had a hard time accepting then- Superintendent Diana Lam, who was tapped in 1992 to bring in reforms and solidify the district's commitment to expeditionary learning. Gill says many thought of Lam as a visionary, but others say she was too brash for local tastes. The first female superintendent in Dubuque, Lam headed the Chelsea, Mass., public schools before helping design the expeditionary-learning model. Earlier this year, the board voted 4 to 3 to renew her two-year contract. Observers interpreted this as a lukewarm endorsement and a factor in Lam's decision to accept the superintendency of the San Antonio schools. But the superintendent's departure did not silence all of the schools' detractors. Earlier this fall, for example, half of the candidates vying for three seats on the board campaigned against the district's reforms, including expeditionary learning. They lost. For Robey and others, this was a welcome sign of parents' confidence in the reform effort. Indeed, parents seem to have gotten involved at the four expeditionary-learning schools. On a recent day, for instance, one of the schools had three times as many parent volunteers as it needed for a student outing. Several parents say they feel the biggest benefit of expeditionary learning has been the professional boost to teachers. "I think the effects of the program will be cumulative," Martha DeGree, another parent, says. "The grant will end, but the teachers will be trained. And you can't take that away." But even supportive parents have their share of concerns. DeGree, for instance, has reservations about how expeditionary learning addresses the needs of gifted-and-talented children. Recently, though, she was heartened to hear that the district had reached a compromise with parents who feared that the elimination of tracking--a feature of expeditionary learning--would slow down more advanced students. The schools instead practice "flexible grouping," organizing children by their ability to handle given assignments in reading or math. District officials have no clear indication yet that expeditionary learning is boosting student achievement, Superintendent O'Hare admits. He says officials still need to evaluate all of the reforms under way in schools to see if they're making a difference. In the meantime, the education school at the University of Colorado at Boulder and the Academy for Educational Development have also been evaluating the district's progress, and the rand Corporation is reviewing all of the nasdc sites. Though test scores are up over all in Du-buque, it's hard to pinpoint which, if any, of the district's initiatives is the cause, Gill says. (And children in lowa already do well in national test comparisons, he adds, typically scoring in the 80th to 90th percentile.) But at some of the expeditionary-learning schools, subtle signs of improvement do indicate that the approach is making inroads. Principal Kathryn Kolarich of Lincoln Elementary says her students have become more motivated and more interested in the insights of their peers. And the school environment is more welcoming to parents--a change that has nearly doubled the number of parent-volunteers on the school's roster, she says. Officials at the other schools say improvement in student attendance may also mean that the changes are catching on with students. O'Hare points to an even more striking improvement: how the approach has reinvigorated teachers and principals. "The beauty of what's happening is that it's changing our people," he says. "That's the heart of the whole thing." And if they see more signs of its benefits, school officials say, they hope expeditionary learning will catch on in more schools here. But they're not pushing it. The district doesn't want to force the approach on anybody, Burgart, the expeditionary- learning project director, adds. For the time being, officials are content to focus on a handful of schools, where expeditionary learning is still evolving. "One piece of this I sort of underestimated is the energy it takes to work with the staff, the parents, and the community to help them understand" what the district is doing, adds Principal Stephens from Bryant Elementary. "The fieldwork's the frosting on the cake. But we still have to get across that the basics are really still there and kids are going to be able to compete."

Expeditionary Learning by Design General Principles * The primacy of self-discovery * The having of wonderful ideas * The responsibility for learning * Intimacy and caring * Success and failure * Collaboration and competition * Diversity and inclusivity * The natural world * Solitude and reflection * Service and compassion Central Features * Real-life challenges, with fieldwork comprising about one- quarter of students' time * Interdisciplinary approach * Material designed to be intellectually rigorous * Equal value placed on intellectual and character development * Cooperative and individual work * Tracking eliminated * Time for silence and reflection, journal writing * Student-centered approach, some self-directed learning * Matching students and

teachers for two years or more * Flexible schedule, site, and grouping of students * Typically three- to nine-week expeditions organized around theme * Emphasis on family and community involvement * Use of performance and portfolio assessments SOURCE: Expeditionary Learning Outward Bound

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The Outsider

By Mark Pitsch
New York

Audrey Cohen is surrounded by dead white men. Gray and blue business suits. Moustaches, thinning hair, wire-rimmed glasses, pocket watches. The elite of early 20th century New York glare down from the walls with sour expressions at this intruder.

This is our space, they seem to say. The fireplace, rare books, mahogany tables, antique lamps, and executive chairs backed with maroon leather.

Cohen ignores them, deliberately operating in their world--the private, midtown Manhattan business club known as Lotos--to conduct much of her official business. Or, in her words, to "do what college presidents do."

For such work, the cramped office space of the Audrey Cohen College--located on the second and 14th floors of a nondescript office building in a lower Manhattan no man's land between SoHo and Greenwich Village--just won't do.

And if the tiny, wire-thin woman sprouting a crop of dusty red hair stands out in sharp contrast to the dour-faced men whose likenesses adorn the walls of Lotos, she is no less incongruous in the world of education and academia, where she is sometimes held in awe--and sometimes in contempt.

That is, if she is known at all. For the name Audrey Cohen lacks the familiarity and drawing power of such education thoroughbreds as Ted Sizer, James Comer, or Debbie Meier. "The Audrey Cohen folks," one acquaintance confides, "are a rather different breed."

Audrey Cohen, says Frank Newman, the president of the Denver- based Education Commission of the States and one of the few well-known education "names" who says he knows the college president well, "is not mainstream."

Maybe so. But thanks to a grant from the New American Schools Development Corporation--one she applied for almost by accident-- Cohen has joined a new club that includes many of the leading education players. The design team assembled by the college that bears Cohen's name remains one of nine funded by NASDC since 1992 in its quest to build new and better schools. The team has received $4.65 million for use through June of this year.

And if initial impressions mean anything, the design team could become among the most successful, according to observers of the NASDC process.

"She probably has the capacity to expand into schools better than some of the other designs," notes one NASDC insider. "It's just straightforward and simple."

"There's one thing of talking good and another thing of doing good. Some of the big names--and don't get me wrong, they're good people--are having trouble getting it done," says Saul Cooperman, the former New Jersey state schools superintendent who chaired the NASDC education advisory board that chose the design team winners. "And Audrey Cohen is a meat-and-potatoes person. She's one of those diamonds in the rough that nobody ever heard of. And that to me is the beauty of NASDC."

Audrey Cohen traces her life's work back to two seminal experiences in the 1950's. As a high school student

in 1952, Cohen was one of two Pennsylvanians chosen to attend a short summer seminar in Washington. The students would work in government offices during the day and hear from high-ranking government officials during the evenings.

"It was a very growth-enhancing experience," she recalls. But one thing troubled her: The sponsor, the Y.M.C.A., was forced to rent a private dining area where the students could have their meals and listen to speakers. Many facilities in the city would have refused to serve the few black students in the group.

"I saw a disparity between doing daily work in a government office and the policy that was being discussed by the Secretaries," she says.

As a college student, Cohen was chosen to lead the U.S. delegation to a model United Nations conference. She sponsored a resolution banning the worldwide manufacture of atomic and nuclear bombs, and the action was written up in The New York Times. She was left with another strong impression: "What I could do was something that people were interested in and could make a difference."

These experiences, she said, "gave me a sense that there was a better way to structure education."

But Cohen's ideas on education were put on hold. She married, toured the country and the world with her husband, who was in the Navy, and gave birth to two daughters.

After settling in New York, she sought a way to both raise her children and "do something intellectually stimulating." In 1958, she co-founded a social-science research company--an emerging field--that employed only women. "I stumbled upon the gap, and these corporations that ordinarily wouldn't have hired a woman for a project within the corporation were thrilled to be able to come to my door," Cohen recalls.

She wanted to hire only women, and particularly those with low incomes in an effort to do something socially useful--introduce a new cohort into the workforce. But most low-income women did not have research backgrounds.

By the mid-1960's, however, Cohen had secured a federal grant to train low-income people, particularly women, for such emerging occupations as paralegals, teachers' aides, and social workers. This organization, the Talent Corps, served as the foundation for the College for Human Services, which was chartered in 1970.

That year, Cohen began phasing out the college's associate's degree program and spent the next four years analyzing the U.S. labor market and global economic trends. "Out of that came these overarching areas, activities that everybody seemed to have to have to be successful in this new world," Cohen says.

The College for Human Services, which was renamed the Audrey Cohen College in 1992, then began using its peculiar--and, thanks to some unconventional jargon, somewhat confusing--method of educational instruction to provide bachelor's degrees in social- service fields. Today, the college has some 1,100 full-time students and offers bachelor's degrees in human services and business and graduate degrees in business and administration.

In 1983, the College for Human Services Junior High School was established in Manhattan's community school district 4. Later, an elementary and high school linked up with the college. Then a 1989 grant from the Hasbro Children's Foundation allowed the college to collaborate with elementary schools in San Diego, Phoenix, and Hollandale, Miss.

Cohen learned of the New American Schools Development Corporation when she was asked to attend the 1991 announcement at the White House by President Bush. She hadn't been asked by the White House, but rather to take the place of a friend who had been invited but could not go.

"It was very exciting," she says. "I'm not sure I would have encouraged my staff to work on all of this if I hadn't gone that day to the White House."

Since the college's design team won the grant, the program has expanded to two additional schools in San Diego and five schools in Miami. Thirteen schools in five states now use the Cohen method. The college is negotiating with NASDC over future growth.

The college had always planned to increase the number of schools using the Cohen method, but the NASDC grant has helped it do so more rapidly. The schools project, Cohen says, "is our destiny."

For most people familiar with the Audrey Cohen College design, seeing is believing. Cohen herself knows this. Although some members of the NASDC educational advisory board, which reviewed the nearly 700 design proposals submitted to the corporation, showed enthusiasm for her ideas, they did not fully understand them. Some had to read the proposal several times before making sense of it.

"We underwent heavy questioning," Cohen says. "They had read the material, but they kept asking us over and over again to explain it."

This is why: Students learning under the Audrey Cohen model don't study such traditional subjects as mathematics, science, and English, per se. Instead, they study "Dimensions"--Self and Others, Values and Ethics, Skills, and Systems. Consider them ways to categorize subject-area knowledge.

Each semester, these Dimensions are built around a "Purpose," which is another way of saying "theme." For example, the two semester-long purposes studied by kindergartners are called "We build a family-school partnership" and "We care for living things." The purposes studied in 5th grade are called "We improve the environment" and "We use technology to meet human needs." The purpose provides the basis for a semester-long "Constructive Action," which is another way of saying "project."

This structure, says Cohen, allows for rapid transformation of an entire school by putting student learning at the center of instruction. Traditional subjects are still taught, but within the context of the dimensions. For example, traditional mathematics and English, with standard texts and instructional materials, can be taught as part of the study of values and ethics; the coursework is crafted around these issues. State and district curriculum requirements are incorporated into the Cohen method. Giving students a purpose or theme, Cohen says, and asking them to undertake constructive actions related to it, makes learning relevant to the outside world.

Last month at two of San Diego's elementary schools, Louisa May Alcott and Benjamin Franklin, students were engaged in a variety of constructive actions, which they had chosen themselves.

Alcott 2nd graders, with a purpose of making "our neighborhood a better place to live," were organizing a canned-food drive for the homeless in their area. They read about homelessness, discussed what they read, developed presentations to give to other grades, graphed their collection of cans and did other mathematical measurements based on the food drive, and got in touch with a local television station to publicize their work.

Franklin 5th graders developed informational videos as part of their technology semester. One video focused on drug prevention; another explained the Audrey Cohen instructional method for parents, other community members, and other schools. The students serve as technology assistants to other children in the school.

"Do you know what I haven't heard in two years?" asks Gail Barnes, who teaches kindergarten and 1st grade at Franklin. "`Why do we have to go to school?' `Why do we have to do this?' I haven't heard it because the `why' is there."

Parents report that their children in the Cohen schools have a renewed interest in learning for its own sake and use what they've learned in their own lives. One student, after spending a semester on health, asked his mother to pack more nutritious lunches. Another, studying the environment, set out to ask people she saw littering to stop.

"There isn't a day that goes by that she doesn't talk about what she learned in school," Maria Morenc says of her daughter, a 5th grader at Franklin.

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Teachers say that once they understand and become comfortable with the jargon, they cannot imagine teaching any other way. The Cohen method, they say, requires the kind of collaboration that fosters better teaching.

"I bought into it right away," says Franklin teacher Carla Waldron. "It's the best thing I've ever done."

Audrey Cohen College officials point to increased student, teacher, and parent enthusiasm; greater collaboration and a sense of ownership among teachers; and a greatly reduced student absentee rate in most participating schools as evidence that the program is working. Student performance is more difficult to measure--the college is developing an assessment system linked to purposes and dimensions. But officials acknowledge that student scores on standardized tests have remained steady.

The Audrey Cohen College requires schools that want to use the Cohen design to undertake an intensive self-examination before signing on. It is a process that could take as long as a year, but Cohen says it is necessary for parents, teachers, administrators, and students to know their strengths, weaknesses, and resources before making a dramatic educational change.

"It's quite a leap, and we want them to understand that," Cohen says.

In other words, once a school makes a decision to "go Cohen," there's no turning back. Moreover, she does not want schools to pick and choose pieces of her method--it's an all-or-nothing package. "I simply didn't want this to become a fad," she says. "I believe it is too important and has too much potential."

Cohen is fiercely territorial--some observers would say paranoid--about what she has developed. The terms Purpose, Dimension, and Constructive Action are copyrighted, and she is ready to take legal action against anyone who appropriates them without permission. She struggled with NASDC over the intellectual property rights of the design teams and was prepared to forfeit her grant over the issue.

She also seems wary of the media. During a three-hour interview at the Lotos Club, she turned down a reporter's request to use a tape recorder.

Her battle to protect the college's design, she says, "is not so anyone can't use it. It's so it doesn't get torn apart." The squabble over intellectual property rights, which was resolved in her favor, "wasn't an issue of money. It was an issue of attribution and wholeness," she says. "I just feel so strongly that we can make a major difference in education."

Cohen is also an entrepreneur, and she admits that, should the design prove to be successful, receiving credit is important to her. In light of those feelings, she and other college officials have only recently stepped up efforts to promote themselves and the design--something a recent advertisement in The New York Times Magazine referred to as an educational "revolution" in a field that hasn't "changed much since the Middle Ages."

She's aware that her name, and her work in education, are seldom recognized. And she realizes that her efforts to shield her creation are partly responsible for that.

"I've always felt that you should know what you're doing before you talk to the outside world," she says. "I do feel confident now that we should let a little light shine on what we're doing. ... We're definitely exposing ourselves as we have never done before in a major way."

Other observers, particularly Cohen supporters, say she has not gotten due credit from educators and academia--including other design-team leaders--who consider the college, the instructional method, and Cohen herself too offbeat. One design-team leader, asked to describe Cohen, said sarcastically that she has set herself apart from the others: "She's the only design-team leader who has a college named after her."

Cooperman and others close to NASDC, however, believe that Cohen's design will ultimately succeed, despite her current lack of renown. They caution, however, that her success over the past 30 years is largely

attributable to her determination and drive.

"The design is intellectually sound, capable of being understood, and the staff development is not beyond the ability of mortals to figure out," says Cooperman. "She's got a winner. Now, she's got to figure out how to go to scale."

"She's kind of got a small, homey group, and that's going to be one of her problems--going to scale," he adds. "Can she delegate? Can she train people? Can she let go? Or will she be Gepetto, having to have control?"

Cohen responds that she and her colleagues at the college are already engaged in scaling-up activities that will lead to a national infrastructure of Audrey Cohen schools.

The college has applied to the state of New York for certification of a new program that will train teachers to teach with dimensions and purpose. An assessment system is being developed as are instructional materials related to dimensions and purposes.

Also in the works is a national computer database that Cohen hopes will be accessible by all participating teachers, who will be able to review what has worked at other schools. As envisioned, students and teachers will be able to contribute to the database at their leisure.

Meanwhile, current schools are connected to each other through teacher leaders and a college employee in charge of schools development. With several years' experience using dimensions and purposes, they travel to newer schools in Phoenix, Hollandale, and Miami--a process that Cohen says allows for school-by-school training by school personnel.

Eventually, more and more teachers and administrators will develop expertise with the method, which they will be able to share. "It's another paradigm," says Cohen. "But once you get in the paradigm, it becomes simple."

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Beyond Model Schools

By Lynn Olson
Everett, Wash.

Eighth grader Amy DeGeest thumbs through a large manila folder, pausing at highlights. There are notes from her oral report on Rome, the text of a speech she gave to her class, a project on World War II, a poem.

"One thing that really improved over 7th grade was my writing," she comments. "You could really see that. The quality of my work got a lot better because I could look back and see what I didn't like and improve it. As we go through it, it becomes clearer what I was doing."

Amy's review of her 7th-grade portfolio reflects the goals of the National Alliance for Restructuring Education. The nonprofit group envisions a school system built around high standards for student work that are so clear that children can easily understand them. Its aim is to have all but the most severely disabled students earn a Certificate of Initial Mastery at about age 16 based on achievement of the standards.

The alliance is one of nine design teams funded by the New American Schools Development Corporation. Business leaders launched the corporation during the Bush Administration to underwrite the design of "break the mold" schools.

But from the beginning, the alliance differed from the other design teams. Its sheer size dwarfs the others. While most focus on a handful of schools, the alliance's partners include five states and four city school districts. Collectively, members of the alliance teach nearly five million students in more than 9,000 schools.

Where others promise to create break-the-mold schools, the alliance pledges to create break-the-mold school systems. Its participants rank among the most prominent sites of school reform, including Rochester, N.Y., San Diego, Pittsburgh, and the states of Kentucky and Vermont.

And where others focus primarily on changes in the classroom, the alliance has taken on a particularly ambitious agenda. Its five design tasks are meant to change nearly every facet of education simultaneously; from how schools are managed and governed to the delivery of health and social services. (See "The Five Design Tasks.")

"We never set out to build model schools," asserts Marc S. Tucker, the president of the National Center on Education and the Economy and the founder of the alliance. "What we promised to produce are systems that can raise the whole level of schools out there."

But Tucker, who has the rumpled appearance and measured speech of an academician, is more a policy wonk than a practitioner. And the alliance has struggled to translate its vision into real changes in schools.

For the very things that make the alliance unusual are also its Achilles' heel: Namely, how to work in so many places and on so many fronts at once while still achieving depth.

A former associate director at the National Institutes of Education, Tucker often grappled with how to translate research on education policy into reality. In 1986, he directed the task force of the Carnegie Forum on Education and the Economy that produced A Nation Prepared: Teachers for the 21st Century, which called for a complete restructuring of education along the lines of successful U.S. businesses. In late 1987, Tucker founded the National Center on Education and the Economy to implement the report's ideas. In 1988, he moved its headquarters to Rochester, N.Y., where he had been invited to work with the community on those

efforts. But Tucker's small staff was spread too thin to accomplish its agenda.

A year later, he was on the phone to leaders in other districts and states that were also trying to implement the report's proposals. In late 1989, the alliance was born, with funding from the Pew Charitable Trusts. "We had all come to the conclusion that we could make more progress on the agenda laid out in the [Carnegie] report together than we could separately," Tucker says today. In 1992, the group secured the largest of the grants from the newly formed New American Schools Development Corporation: $2.5 million.

But its proposal broke sharply with the primary contention of NASDC, which was that Americans needed new blueprints for model schools. Tucker thought there were good schools out there but that they inevitably were eaten alive by the system. His primary insight was that schools, districts, and states would have to change simultaneously to make good schools the norm, and that it would take a team of outside partners with a wide range of expertise to help them do it. At the N.I.E., Tucker had been responsible for pulling together teams of some of the best researchers in the country to tackle major issues in public policy. He used the same strategy now. He began to line up more than a dozen partners to work with the alliance sites, ranging from Apple Computer Inc. to the Learning Research and Development Center at the University of Pittsburgh. And the alliance crafted mechanisms to hook these experts up with the schools, districts, and states in an equal partnership.

Eisenhower Middle School, where Amy is a student, is located just north of Seattle, in Everett--one of four area districts that belong to the alliance.

Historically, the four districts of Edmonds, Everett, Northshore, and Shoreline have not had much in common except adjoining boundaries and a stellar view of the Cascade Mountains. Everett is a former mill town, 17 miles long by three miles wide, whose steep streets sweep down to the bay. Over the past decade, high- tech computer firms have edged out more traditional logging and maritime industries. Today, its student body ranges from the sons and daughters of blue-collar workers to the children of corporate executives.

The other three districts are suburban bedroom communities, whose student populations are increasingly diversified by income, race, and native language. Together, the school systems serve about 65,000 students, of whom about 15 percent are children of color.

Brian Benzel, the superintendent of the Edmonds school district, provided the link to the alliance. Benzel had chaired a statewide task force on "Schools for the 21st Century" under Gov. Booth Gardner. The grants competition provided seed money for innovative schools, with the hope that their ideas would be widely replicated.

In 1986, the year the Carnegie report was published, Gardner invited Tucker to Washington State for a meeting about the report and its implications for the state. When Tucker formed the alliance in 1989, Gardner signed on, and Benzel became the state's representative to the group.

Benzel had moved to Edmonds the year before, where he had begun meeting with his neighboring superintendents over breakfast. All of them were new to their jobs and discovered they were facing many of the same challenges. When the alliance applied for NASDC funding in 1991 and laid out its five design tasks, Benzel recalls, "the framework was highly aligned with what we were already doing. It subsequently has fit so well with all of our strategic efforts that it's fully integrated."

Today, the four districts pool resources, share expertise, coordinate their work on the alliance tasks, and send teachers to each other's districts for training. "What I see happening with this regional piece is an incredible leveraging of thought," says Mary Ann Kendall Mitchell, the superintendent of the Shoreline school district. "Collaboration produces speed."

What the alliance has provided, she says, is a framework. "We decided to participate in the alliance because the five design tasks were so congruent with the goals that we had set in our district plan," says Mitchell. "They were probably a better explanation of what we were trying to do and took us more in depth. To me, it seemed like we would be looking a gift horse in the mouth if we didn't go for it."

You can get a sense of how the design tasks come together at Kellogg Middle School in the suburb of Shoreline, a four-by-five- mile-wide bedroom community where people move for the schools. Last year, with substantial involvement by the community, the school developed a vision statement based on the five design tasks. The document pledged to promote the highest academic achievement for every student and to specify what youngsters needed to know and be able to do before they left the school.

Kellogg worked with alliance partner Apple Computer to create a Teacher Development Center, where teachers from all four districts can come to immerse themselves in a technology-rich environment. About 120 students and four teachers work in the center at a time. On this particular day, two students are crouched on the sidewalk outside the classrooms, fiddling with a camcorder. In the back of one room, two more students are producing computer graphics for a book report. Next door, most of the class is filling out algebra worksheets. In another classroom, the teacher is reminding students about how to use the Internet. A pile of laptop computers sits at the front of the room.

Students here spend about 40 percent of their time learning basic academic skills, and the rest of the time on long-term projects, explains coordinator Mike McMann. Last year, they published Seattleite, a guide to northern Seattle for youngsters. This year, they spent three weeks creating a wetlands ecosystem using a virtual-reality computer system. As part of another laboratory project, they built a 200-gallon aquarium that mimics life in a nearby pond.

"You talk about authentic assessment," McMann smiles. "Grades don't matter. Plants or animals live or die. These guys talk about ecosystems in a way that I think will be lifelong."

The school hopes to expand the program to two more groups of classrooms next year. It's also starting to map the instructional units developed here with the emerging state, district, and national standards. Another alliance partner, the New Standards Project, is drafting performance standards in English, mathematics, science, and applied learning for initial release this summer. Teachers in the alliance schools--and in other New Standards states and school districts--are piloting performance tasks and portfolios in language arts and mathematics.

Kellogg's efforts are also in line with a 1993 state law that echoes the alliance's agenda. The Performance-Based Education Act created a commission on student learning to draft state standards in key academic subjects. It required a Certificate of Mastery by the end of the decade. And it authorized Readiness-to-Learn grants that school systems can use to link schools with health and social services.

The four alliance districts jointly received a $1 million state readiness-to-learn grant, which they have focused on 12 schools, of which Kellogg is one. Using a model developed by the Center for the Study of Social Policy, another alliance partner, a program council of parents, school employees, and community- service providers developed a set of outcomes for children's health and well-being. They surveyed the community to determine local needs, even holding a potluck supper to survey non-English- speaking parents. Kellogg has collaborated with the nearby Shorecrest High School to create a wellness clinic, launch an after-school program with the department of parks and recreation, and provide a mental-health case worker on site.

Kellogg has also reached out to its parent community. With a student-learning grant from the state, it hired a parent to coordinate a series of Friday afternoon enrichment programs for students, taught by parents and community volunteers. The "Friday Forums," which take place nine times a year, provide time for staff development while addressing parents' concerns that their children not be released early from school.

The district supports the school in its efforts. Last year, Superintendent Mitchell persuaded the school board to evaluate her performance based on the five design tasks, which she has reconfigured as her own goals. The district also plans to pilot a certificate of initial mastery with the 1996 freshman class.

"If you're a good superintendent, you know what the agenda should be," Mitchell contends. "But the big question is how fast should I move, and how can I get local folks to process it in a way that makes sense for them, so that they feel the work is happening from the inside out?"

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In Shoreline, she asserts, "People talk about the alliance--yes-- but they also talk more deeply about our own reform plans. And sometimes, perhaps to the frustration of the alliance, we don't play it as alliance work because it has blended in so well."

At Kellogg, the alliance's ideas aretaking root. But Tucker admits that success has been uneven across the alliance sites. In many schools, only a handful of teachers have had direct exposure to the alliance through its national seminars. And the alliance has had to rely heavily on these lead teachers to spread the gospel back home. As a result, some schools do not yet look and feel substantially different.

Last year, to address such problems, the alliance asked each site to identify at least two point schools that would take on all five design tasks at once. These schools would receive greater attention and support from the national office. The four Washington State districts did so with great reluctance. They are interested in creating a districtwide infrastructure that would support reforms at all their schools, rather than singling out a few.

"The concept of the point school has been an issue for us," Mitchell says bluntly. "The question of having all these things happening at once at one school is almost overwhelming." She would rather spread the wealth--and the attention--around, letting each school forge ahead in the areas where it is most ready.

The alliance is rethinking its strategy in other ways as well. It has made the Certificate of Initial Mastery the centerpiece of its efforts--an idea that was relatively invisible within the alliance a year ago. "It really requires the jurisdictions to come to grips with what they want students to know and be able to do," asserts Judy B. Codding, the director of the alliance. "We're looking at that to be a benchmark. If all elements of the system--from the time that a kid enters school to the time that the kid gets the certificate--were working together to see that all kids achieve this certificate, what a miracle that would be."

Alliance sites also have committed to a set of indicators that describe how they will look and feel different by this fall on each design task.

And the alliance has beefed up its own staff of practitioners, recruiting Codding, a former high school principal, as director.

Moreover, the alliance is rethinking the way it allocates resources. While it will continue its series of national seminars for teams of people from the state, district, and local levels, it will also build in more assistance on site.

"What we now know is the national conferences are a very powerful experience for the people who come," says Tucker, "but it's very limiting. To get to where we need to go, there has got to be a team of half a dozen alliance people locally, right there at the site, drawn from local practitioners. What we now see is that we need to have a balance between our national function and a local function, and they need to work hand in glove."

The most visible example of this is the Teacher Development Centers. There are now seven nationwide, of which four are in Washington State. Teams of teachers come to the centers for a week at a time to learn by doing. And center coordinators check in on the teachers over the coming year as they try to apply what they have learned.

Jackson Elementary School in Everett houses one such center. It's located on the second floor and includes five classrooms for grades 2-5.

On a recent day, the older students are sharing their projects with each other from a health unit on how to take care of themselves. One group is playing a board game called "Help the Heart," created by 4th grader Kristy DeVera. "So far, everybody who's played it has really liked it," she grins. Others have created papier-mch sculptures, dioramas, and three-dimensional food pyramids. In the back of the room are rows of computers. All of the students also keep videotaped portfolios of their work. On the wall are scoring rubrics that tell youngsters what kind of work would deserve a 4 (the highest score) and what a 1.

"What we're really trying to do is create engaging questions that are of interest to kids," explains teacher Terry Chadsey. "The biggest change is rather than the teacher and the textbook controlling the pace and content of what is learned, it shifts control to the learner--to the child."

Teams of teachers from within the school and from the four Washington State districts visit the center for a week at a time. "The benefit of this is that they come and go as a team so there's that support when they get back home," says the school's development-center coordinator, Pat Moriarty.

Through an electronic network, created by the alliance and Apple Computer, Jackson can share its experiences with other centers, including two at elementary schools in Vermont and Kentucky.

But, so far, the success of the centers has been mixed. The one at Lynnwood High School in Edmonds got off to a shaky start this fall. Students there complain that the program is isolated from the rest of the school and has not given them as much access to technology as promised. The alliance is now rethinking the role of the teacher centers, hoping to turn them into School Development Centers that will focus on all five design tasks at once, not just technology. Alliance members would have to commit to create at least one center each at the elementary, middle, and high school levels.

The alliance also hopes to employ and train a team of local people--at least one in each design task--that could provide ongoing, on-site support to their jurisdictions.

One of the striking things about the alliance is its willingness to learn from experience. But after three years, Tucker admits, there is still a long way to go. "Neither Judy [Codding] nor I would present the alliance, in any sense, as finished," he says. "I think we've got a powerful framework, some pretty impressive partners, and we've learned a lot."

When it comes to NASDC's timetable--which calls for the designs to be fully implemented by this June--Tucker simply says: "We are marching to our own drummer."

But time is the one problem the alliance has been unable to surmount. In essence, it has been trying to rebuild school systems around high standards that do not yet exist. Standards in Washington State and its school districts are still under development, as are those of the New Standards Project.

That dilemma can be seen back at Amy DeGeest's school in Everett. Eisenhower Middle School already teaches language arts, reading, and social studies in an integrated block. Most teachers in the school are experimenting with new forms of assessment, like portfolios. And students are required to complete one long-term, interdisciplinary project each trimester that demonstrates what they know and can do in an area of interest to them. Teachers are also working on ways to develop instructional units that would help students meet high standards.

But, as teacher Barbara Haas worries, "When we say kids are O.K., what does that really mean? What is the standard here?"

The alliance is betting that the answer to that question lies just around the corner. But in an ideal world, it would have been the first question out of the box.

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A Community of Learners

By Meg Sommerfeld

You know you're getting close to LeSueur, Minn., when you see the Jolly Green Giant. A larger-than-life replica of the affable vegetable pitchman beckons from the hillside just before you reach the exit along Highway 169.

It's snowing steadily and bitterly cold--even by Minnesota standards--in this rural town once home to the Green Giant Company. But even the promise of a fresh February snowfall fails to distract the students at Minnesota New Country School this afternoon. They're caught up in last-minute preparations for their monthly "exhibition night" at the local shopping mall. And the rapidly accumulating flakes haven't deterred local residents either. By 6:30 P.M., the first of 50 parents, siblings, and neighbors have made the trek over to the Valley Green Square Mall to find out what students have been learning at their six-month- old charter school.

For the next hour or so, they listen to students read short stories and essays and watch them demonstrate self-made HyperCard stacks--computer programs that allow users to navigate collections of text, images, and sound. Afterward, the guests wander over to a series of booths, where students entertain questions about displays that run the gamut from a live ferret to a miniature guillotine to a demonstration of Newton's laws of motion. One young woman in a navy formal dress and tiara recounts her experience as a contestant in a local beauty pageant.

Later, the students and their guests navigate the slippery sidewalks to the school's main building down the street. There, they sip punch and munch on cookies while more students demonstrate technology projects, this time at a bank of Power Macintosh computers linked directly to the Internet. The evening's demonstrations finally wrap up around 9. Even though many of the teenagers have been at school for 12 hours, a few linger behind to talk to friends and teachers or tinker with the computers.

An Institutional Bypass

Though they already seem like a longstanding tradition, these exhibition nights are a new addition to life in LeSueur, a town of 3,000 an hour's drive south of Minneapolis. When the school opened its doors in September, its founders envisioned the exhibitions as a way for students to demonstrate publicly what they know and are able to do. At the same time, they hoped the forums would help forge a stronger link between the school and the surrounding community.

New Country is one of seven "Community Learning Centers," schools brought to life over the past three years with help from Public School Incentives, an umbrella nonprofit organization uniting several reform groups in the Twin Cities: the Center for School Change at the University of Minnesota; the Urban Coalition; Designs for Learning, a for-profit consulting company; and Briggs and Morgan, a law firm that specializes in education. The P.S.I. design team is one of nine receiving funding from the New American Schools Development Corporation, a private, nonprofit group founded in 1991 when President George Bush asked American business leaders to raise millions of dollars to create "break the mold" schools.

NASDC sponsored a design competition that attracted more than 700 entries, and it awarded one-year planning grants of $1 million to $2 million to each of 11 teams. Nine of the 11 design teams, including P.S.I., qualified for a second round of grants to implement their designs at pilot sites. NASDC is now negotiating with up to 11 jurisdictions nationwide to implement the reform blueprints and other proven school designs in at least 30 percent of their schools over the next five years.

The approach the design team adopted suggests that the best route to comprehensive education reform may

be to relegate the existing system to the scrap heap. In its place, the designers argue, communities should create small, autonomous public schools that operate outside the regulatory constraints of school districts. It's not surprising that such an effort originated in Minnesota, the first state to enact legislation allowing the formation of charter schools, self-governing schools that are exempt from many state and district regulations in exchange for heightened accountability.

In its initial proposal to NASDC, the design team described its vision as "an institutional bypass to the present impasse preventing school change." The new schools would function almost like publicly funded independent schools, managed by local boards of parents, teachers, and community members.

The team is now working with nine schools across the state: four charter schools, two tribal schools, and three public schools that have negotiated special arrangements with their districts giving them greater control over budget and staffing decisions. It hopes to collaborate with a total of 20 schools by this fall and as many as 100 by the fall of 1996.

Oasis on Main Street

Minnesota New Country School is about as far from a traditional high school as you can get. There are no hallways filled with lockers, no students sitting in rows of desks listening to lectures. No 40-minute classes, no bells, no cafeteria, no auditorium, no athletic fields, no principal's office--no principal, period.

In fact, it's pretty easy to drive right by New Country, even if you're looking for it. Housed in two storefronts on Main Street, the school easily blends in with neighboring shops and businesses--the LeSueur News-Herald, Belle Mar Video, and Big River Pastries, a bakery shop missing the "i" in "pastries" on its sign out front.

The larger of the two school buildings doesn't even have a sign. The only tip-off that it's a school at all is a small mural of a student holding up a computer before a cityscape, superimposed on an outline of the state of Minnesota. Once a bar and grill, the building now welcomes about three-quarters of New Country's 73 students and three of its four teachers. The second building, a former bank at the other end of Main Street, is home to the remaining students and teacher.

The main facility has one large central room, a smaller adjoining classroom, a kitchen, and a quiet room where students can meet in small groups. The main room is fairly open, with counters and cubbyholes lining the perimeter and a cluster of computers in the middle.

"Our original intention was to have this be like a business atmosphere," says Kim Borwege, one of the school's four teachers and founders. "But then the kids started hanging stuff on the walls." Pictures of such entertainment personalities as David Letterman and Kurt Cobain adorn the walls, along with pithy teenisms like "If life were a movie, would you want to see it?"

"You can tell where they're coming from and how they feel," says Borwege of the decor. "It's really a statement about themselves."

The atmosphere is unconfined--even a little chaotic at times. Earlier that morning, a few students sat at their desks, chatting and flirting. Another group was busy organizing a classroom debate. The sounds of the neo-punk band Green Day could be heard from the radio at one girl's workspace nearby. Others, seemingly oblivious to the activity around them, concentrated intently on computer screens, scrambling to complete projects in time for that night's exhibitions.

No Typical Day

New Country's school day officially runs from 8:30 A.M. to 2:50 P.M. That's about when the bus drops off and picks up students. More than half of the students live outside of the LeSueur- Henderson school district, and a few come from as far away as Northfield, some 60 miles away.

Although the average day at New Country is anything but typical, most start off with meetings of the school's

four advisory groups. Each teacher advises a group of about 20 students, offering personal support and monitoring individual performance. The rest of the school day is free form. There are no formal classes, such as algebra or social studies. Instead, how and where students spend their time is unusually flexible, thanks to a curriculum that is both interdisciplinary and project-based. Students can come and go freely--they might leave to have lunch with a parent, work on a research project at the library, or to do some reading at home.

Traditional grade levels have been more or less abandoned; there is just Level I (roughly grades 7, 8, and 9) and Level II (grades 10, 11, and 12.) Each student has his or her own copy of the school's curriculum, which is based on the new performance-based graduation requirements the state is developing. The thick Level I packet, for example, explicitly spells out each of 1,300 tasks students must complete before advancing to Level II: converting fractions to decimals, explaining how political power is shared under the U.S. Constitution, and producing some 70 writing samples, just to name a few.

On a yearly basis, each student must accumulate more than 400 "validations," or certificates documenting that he or she has mastered the requisite skills. Students can earn these validations in traditional ways, such as passing a math test. But they can also tackle them outside the classroom through local internships or volunteer service. This semester, one student is shadowing a veterinarian, while an aspiring chef works at LeSueur's Palm Tree restaurant, and another teenager learns his trade-of-choice at an area auto body shop.

Timothy J. Nolte, a 16-year-old student at New Country, has taken advantage of this freedom to start a business selling school supplies and snacks to his classmates. He and a friend secured a $460 loan from Valley National Bank and invested $180 of their own money. They've even registered their business with the state department of revenue, which assigned it a tax-identification number.

At exhibition night, Tim proudly displays the business plan the loan officer required the two young entrepreneurs to develop. The detailed document includes spreadsheets with estimates of expenditures and profits. The young men project they can price their products 26 percent lower than local retailers because of their lower overhead costs.

It's this kind of flexibility that attracted students to New Country when it was still just a set of ideas on paper. Gifted and special-education students were among those willing to take a risk on this unknown commodity. But there were plenty of students from the spectrum in between, too. Despite their different backgrounds, New Country students all shared one trait: an intense frustration with their traditional schools.

Dan Bidwell, 15, says he used to get in trouble at his old school for talking or falling asleep in class. "I'd do anything to get out of there," he says. "I was just totally bored." At New Country, he enjoys being able to work at his own pace and having virtually unlimited access to computers. "There is no way they'll get me to go back as long as this school is open," he declares.

One of his classmates, 16-year-old Amber Johnson, brought home D's and F's from her former school. "I didn't get along with any of the teachers because I didn't understand what they were doing," she explains. "I got so far behind, I didn't want to go to school." Now, she's getting A's and spending about three hours a day on homework. "I can do it on my own now," she says, "and I'm not afraid to go and ask for help."

However, for some students, the lack of structure at New Country has proved problematic. "I guess what we were thinking was kids were going to grasp the concept sooner than we anticipated," admits Borwege. But the younger students, in particular, wanted someone to tell them what to do.

In response, the staff decided to create "mini-courses," a more structured framework for introducing students to topics ranging from German to chemistry. Borwege also asks her advisees to keep daily journals documenting what they accomplish and listing goals for the next day.

But when things just aren't working out, the staff has allowed students to switch advisers or even classrooms. Dan said he decided to move from the larger to the smaller building, where he found teacher Nancy Miller had established more formal guidelines about what work students should be doing each week. "I needed more structure, and I get that here," he explains. "Over here, the teacher has more time to spend with the kids. It's

more chaotic over there, and you had to come up with your own projects. I'm not good at keeping myself on task." But not every student has such a mature outlook, leaving some still frustrated with the lack of self-discipline among their peers. Timothy, the student who started his own business, thought New Country would feel more like a corporate office but instead found it noisy and cluttered. "One thing I hoped to get away from is the immaturity of some students," he says. "People are kind of inconsiderate about talking when you're trying to work."

Nevertheless, Timothy seems willing to make concessions for the independence the school has afforded him. "There's so much I've been able to do that I would not have been able to at the high school," he adds. Like other students, he also likes being able to earn credit for his activities outside of school, such as serving as the president of his church youth group and singing in the choir.

Community as School

Conversely, local residents are starting to tap students' skills during their in-school time. Julie Boyland, the president of the local chamber of commerce, recently enlisted two students to conduct a survey of businesses in LeSueur. The town's economy-- with the recent departure of the Green Giant headquarters and canning factory and the arrival of a handful of high-tech companies--is in a state of flux. The students, Ryan Fisher and Branden Rademacher, plan to compile a computer database listing information on each of the town's 208 businesses, including its location, the service or product it provides, and how many people it employs.

Community residents, especially parents, are also giving back. A mother, who happens to be a full-time student herself, teaches ceramics at her home. A local farmer has volunteered to lead discussions on the works of great Western philosophers. And this month, for the first time, students will emcee exhibition night, thanks to lessons from a mother who is a member of Toastmasters International, an organization of people interested in public speaking.

Other Community Learning Center sites have interpreted the call to draw on community resources in an even broader fashion.

Cedar Riverside Community School in Minneapolis, for example, has cultivated a community that extends beyond the geographic area surrounding the school. Like New Country, it is a small charter school, a K-12 school with 99 students and multi-age classrooms. Cedar Riverside capitalizes on the resources of its immediate neighborhood, which includes the University of Minnesota campus. But the school also tries to draw on the cultural heritage of its students, 40 percent of whom are American Indians.

One group of students, for example, is studying a battle that took place at Sugar Point near the Leech Lake Reservation a few hours north of Minneapolis. Although undocumented in most historical accounts of the period, the battle was purportedly the last confrontation between the cavalry and American Indians. To learn more, the students have planned a visit to a museum near the battle site in Walker, Minn., to examine records of the event and interview members of the Chippewa Tribe.

The elastic schedules and open campuses of charter schools have also allowed students to advance to postsecondary work while still in high school. At New Country, a half-dozen students are taking classes at Gustavus Adolphus College in nearby St. Peter. Among them is Hope Grover, a 15-year-old taking second-semester English and first-semester psychology. "Here, I can go at my own pace and get a lot more done," says Hope, who is dressed in shorts despite temperatures in the teens. At her old high school, she wouldn't have been able to take postsecondary courses until next year, her junior year.

Hope's mom agrees. "I see that Hope has flexibility here," says Dee Thomas, who's come to exhibition night to gauge her daughter's progress. Sitting with her mother at a Macintosh, Hope shows off her HyperCard stack on the solar system. By clicking on Earth, she can view a graphic representation of the planet's surface when it was first formed or take a peek at what scientists think it may look like 50 million years in the future.

New Country's computers are linked directly to the Internet, so students and teachers can make their way onto the information highway any time of day. Community members can also access the Internet on their home

computers using modems hooked up to the school connection.

Although the technology component has been a dream come true for New Country, it has seemed likea nightmare at times for Cedar Riverside Community School.

In its ambitious reform blueprint, the design team weaves a vision of schools with computers on every teacher's desk for keeping records, writing reports, and communicating with colleagues. What's more, each student would have a laptop computer to take notes, complete assignments, and use on-line resources, both at school and at home via a modem linkup.

New Country is well on its way to realizing this vision. But at Cedar Riverside, computer use is limited largely to word processing and educational software. Plans to use computers to track students' academic progress, communicate by e-mail, and take advantage of other more sophisticated applications remain unrealized. Computers ordered in the summer of 1993 still weren't in place by the following March. The school also bought two $8,000 I.B.M. file servers to network its individual computer terminals. Today, one of the file servers is still sitting unused, and plans to link the school's three buildings electronically are in limbo.

Trudie Jones, who teaches 3rd through 5th grade and is also Cedar Riverside's personnel director, thinks the equipment the school received was overpriced and outdated and the technical support, nonexistent. Given what she knows now, she would have spent more money on software and training and far less on hardware.

"Being promised the moon as part of the NASDC program, we felt they really let us down," Jones says. "We were not getting the support we expected." But she praises Designs for Learning "for taking the bull by the horns" when it became clear the school felt shortchanged in putting its technology vision in place.

Wayne B. Jennings, the president of Designs for Learning, thinks Cedar Riverside's problems stemmed from the fact that its staff had virtually no experience with technology. The design team advised all of the sites to allocate part of their $200,000 technology budgets for training and service contracts, Jennings says, but Cedar Riverside "just didn't get around to it" with all the other tasks involved in starting a new school.

As a result of some of the schools' problems with technology, Designs for Learning recently hired a full-time computer expert to advise each of the sites.

Not Just for Charter Schools

Although New Country School may represent one of the more dramatic examples of a break-the-mold school of the future, the design team is also working with traditional public schools that remain a part of their local districts.

Among them are the two schools that make up the St. Paul Community Learning Center: Expo I, an elementary school, and Expo II, a middle school, both of which draw heavily on the work of Howard Gardner, the Harvard psychologist best known for his theory of multiple intelligences. Gardner has identified at least seven types of intelligence: linguistic, logical/mathematical, visual/spatial, musical, bodily/kinesthetic, interpersonal, and intrapersonal. Most schools, he believes, tend to emphasize the first two at the expense of the rest.

In an effort to create a climate more conducive to Gardner's vision of learning, Expo I and Expo II have established multi-age classrooms and emphasize thematic, interdisciplinary instruction. Teachers group students in "families" and help them develop "personal learning plans" that set goals in each of the seven intelligence categories.

Scott Sands, the chair of the school's site-based management team, was excited about enrolling his two sons at Expo I. "I liked the idea that we were going to use the latest research in education," he says.

This interdisciplinary approach carries over to Expo II. Unlike most junior high students who move from class to class, Expo II students remain with the same teacher for half the day. Mitch McDonald, a teacher at Expo II, says this allows him to get to know his students better and be a more effective instructor. "We're allowed to get

close to that group of kids and know them and their families," he says. "If they're having a bad day, you have an opportunity to find out what's going on."

One of the design team's first orders of business was to persuade the St. Paul school district to give the Expo schools greater authority over their budgets. But before any agreement could be hammered out, it took 15 meetings with district finance administrators to figure out the two schools' expenses and revenues. "That's a level of granularity that the district isn't used to thinking of," says David J. Alley, the vice president of Designs for Learning.

Jennings says the design team has found substantial differences between working with charter and traditional schools. And although he admits that it's not the only option, Jennings believesthe charter approach is both the most viable and the easiest way to catalyze reform. "It's a whole range of things that charter schools are given freedom from," he says. Charter school teachers and parents, for example, don't have to work around as many barriers, whether it be state regulations, school district policies, or union contracts that spell out what people can do and what hours they work.

Nevertheless, Jennings thinks the blueprint for the Community Learning Centers can help redesign both charter schools and their more traditional counterparts. In these ideal schools, he says, teachers would know their students well and view them as resources rather than empty vessels to be filled with facts and formulas. And parents would be frequent visitors in classrooms, bringing with them their diverse skills and talents. So, too, students would stream in and out of the building, leaving to work as apprentices or volunteers at community agencies. Staff development would be a hands-on experience that takes place at least 20 to 30 days a year. These schools would be active, engaging kinds of places, Jennings explains, "where the teacher is less the sage on the stage and more a guide on the side."

Jennings and his colleagues say they already see signs of progress toward these goals at the state's Community Learning Center pilot schools. Parents recently asked the St. Paul board of education to start a high school modeled after Expo I and II. Scores on the California Achievement Tests are up for the students at Expo II, and responses to parent surveys have been positive. At New Country, students who were once bored with school are now excited about learning.

The design team itself receives good marks from Tom Glennan, the senior adviser for education policy at the RAND Corporation, who is directing a study of all the NASDC projects. Teachers at the Community Learning Center sites, he says, generally praise the team for the relevance and timeliness of its assistance. In part, Glennan traces that praise to the fact that the team's four leaders have worked together for a long time. "You have a sense when you talk with them of their understanding one another and sharing something," he says. "They weren't just put together, as many of the teams were. That has its good sides, and that has its bad sides, obviously. But there's a cohesiveness that I find kind of unique and attractive."

Glennan also points to the "open design" of the Community Learning Center sites as another plus. While other NASDC design teams have more specific guidelines about instructional materials, pedagogy, or use of technology, the Community Learning Centers' design principles allow for broader intrepretations. On the other hand, he adds, the weakness of an open design is that participating schools are less likely to be successful if they are not already unified around particular reform strategies. It may prove more difficult for schools that are less cohesive and less explicit about what they hope to accomplish. "It works in some places," he says, "and it doesn't in others."

John L. Anderson, NASDC's chairman, was impressed by what he saw when he visited several Community Learning Center sites last month. In particular, he cites the enthusiasm and commitment that teachers, parents, and students exhibited. He attributes this to the fact "that people felt responsible, and they had the wherewithal to act; they didn't have to ask anyone, they didn't have to check regulations. There's a real feeling of freedom associated with that."

It remains a question in Anderson's mind, however, whether the caps some states set on the number of charter schools that can be established will limit the impact of the Community Learning Centers. A recent report issued by the research department of the Minnesota House of Representatives pointed to other problems, including

the difficulty charter schools have raising the start- up funds needed for facilities and basic classroom materials. Unlike school districts, charter schools cannot issue bonds or levy taxes to supplement basic state aid.

"Will enough be allowed to allow you to change the system," he wonders. "Or will they be kept as a niche, as some kind of experiment?"

But Anderson remains optimistic about the role of Community Learning Centers in the broader reform movement to create smaller schools. "It won't just be charters alone," he says. Under NASDC's phase III plan, it will help up to 11 jurisdictions design at least 30 percent of their schools using the blueprints that a variety of design teams have crafted.

"If a jurisdiction makes a commitment to create a lot of new schools, those new schools will require autonomy and waivers and freedom from some form of regulations," Anderson says. "Then you begin to build a culture of change. Some may be Roots and Wings schools, some Audrey Cohen schools, some charter schools. But once you have these schools as the norm, then you're not operating on a waiver any more."

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Connecting Technology

By Robert C. Johnston
Worcester, Mass.

When 6th graders Lauren Giffee and Maria Rivera needed information for a project on Northern Ireland, they logged on to school computers for a trans-Atlantic journey through cyberspace.

Scouring some 200 Internet addresses, they came across Darius Whelan, a law professor in Tallaght, Ireland. After they exchanged e-mail introductions, Whelan sent the girls a detailed, two-page e-mail letter answering their research question, "Can there be lasting peace in Northern Ireland?"

"This was all that I had hoped for and more," says their teacher, Tim O'Brien. "The currentness of the information was most gratifying."

Far from being an exception, such research is the goal at O'Brien's school, the Accelerated Learning Laboratory, now in its third year of reform under a technology-based design called Co- NECT.

Co-NECT was developed by the international telecommunications company Bolt Beranek & Newman Inc. It is one of nine designs funded by the New American Schools Development Corporation, a private, nonprofit group launched during the Bush Administration to help create models of innovative schools. The company has received $9.6 million in NASDC grants for planning and implementation of the Co-NECT design.

Co-NECT, the most technology-intensive NASDC design, is shorthand for "Cooperative Networked Educational Community for Tomorrow." In addition to its emphasis on technology, the model stresses community involvement in school management; high performance standards for all students; project-based learning; and collaboration among staff and frequent staff development.

A Co-NECT school may spend up to $85,000 on first-year wiring for computers and video equipment. A less intensive "Co-NECT affiliate" option is also available, costing up to $35,000.

"It's impossible to scale up and get the results we need without the critical use of technology on a wide scale," says Bruce Goldberg, the director of restructuring services in Bolt Beranek's educational-technology department.

Beyond Word Processing

The all School's 543 students and 30 teachers use computers for research, individual instruction, and staff training. There is one computer for every six students, and each student in grades 6 through 9 has an e-mail address. Students also produce a daily newscast on local and international events for viewing within the school.

Each teacher has a computer and receives ongoing technology training. Teachers are encouraged to communicate with their colleagues at other Co-NECT sites via computer.

Tom Glennan, who is helping evaluate the NASDC designs for the rand Corporation in Washington, says that Co-NECT's creators "see technology as important for accessing resources and expertise." In contrast, he says, many schools use computers only for drills and word processing.

In custom designing their school, Worcester officials chose from 25 Co-NECT design strategies, many of them commonly used with gifted students.

For starters, they elected to organize students into multigrade groups: primary, K-2; intermediate, 3-5; advanced, 6-8; pre- masters, 9-10; and masters, 11-12.

Within those groups, teachers, students, and administrators are organized into "clusters." Cluster teachers meet at least five hours a week to share ideas and expertise for long-term planning. They are not required to team-teach, though some do.

Teachers say the system has forged a new collegiality at the school. A byproduct of that is a teachers' video club that meets weekly to review videotapes of classes.

The school year is divided into four nine-week cycles, each with a different global theme. Students and teachers jointly develop a class project for each cycle. While core academic subjects are woven into the projects, some topical workshops are offered.

O'Brien's segment on the peace process in Northern Ireland, for example, was the focus of a nine-week cycle on Europe and Asia.

One class studied fashion during a North American cycle. Students learned mathematics by measuring patterns for clothing. Chemistry was covered by researching material fibers.

"I believe with all my heart and soul that this is the way of the future," said Linda Beriau, who taught the fashion project to the 6th through 8th graders.

Real-World Laboratory

Founded in 1948, the Cambridge, Mass.-based Bolt Beranek & Newman is a leader in telecommunications technology that reported $196 million in revenue for fiscal 1994.

Education has long been a focus of the company, whose researchers developed Logo, a popular computer programming language for children, in the 1960's and helped pioneer the field of cognitive science in the 1970's. More recently, the company has positioned itself as a provider of Internet support to schools.

But joining NASDC gave the organization a real-world laboratory.

"Early on, we worked with teachers and individuals, but we didn't change the nature of education," says Goldberg.

For example, the company hopes to improve teacher interaction with its "Co-NECT School Exchange," a service that allows Co-NECT schools to hold on-line meetings and exchange e-mail.

The team is also the only for-profit NASDC grantee.

"I think there is money to be made in school reform, but not a fortune," says John Richards, the manager of the company's education-technology department.

Still, the direct link to Co-NECT schools provides Richards's staff members with immediate feedback on new products and ideas and keeps them close to their customer base.

"It's been a fabulous opportunity," he says. "When you can work with a complete school, it helps research."

Glennan says the company's "good credentials" help it avoid the "negative vision" most schools have of for-profit outfits.

Seven of its 50 education staff members work full time on Co- NECT, mostly as consultants to the schools using the design. Others develop technology, such as World Band, a service that lets Co-NECT schools jointly

compose and share music.

In addition to the ALL School, there are two other Co-NECT schools, one in Hammond, Ind., the other in Juneau, Alaska. Others are on the way. Officials in the Dade County, Fla., school district voted in March to begin using the model at three sites next fall. The Miami-area schools, to be picked this spring, will average about 1,400 students each and will be the largest schools using the model.

Dade County, along with 10 other jurisdictions, has been tapped by NASDC to create large numbers of innovative schools over the next five years using one of the nine designs. Co-NECT designers have been making presentations to the other jurisdictions as well, hoping some will sign on for next fall.

'Dream' School Emerges

For Principal Carol Shilinsky, the Co-NECT program came along at just the right time. In 1991, Shilinsky was told to convert her aged Woodland Street Community School into a magnet program to attract students from outside the school's low-income, mostly minority, inner-city community.

The mandate was the greatest opportunity of her 25-year career.

"We sat down to draw up a dream school, and that's what we did," she says.

But the outline, which included new technology, grade clusters, portfolios, and longer classes, was so sweeping and potentially chaotic, Shalinsky recalls, that "our gut feeling was that we were going to be so different that we didn't want to go for it."

Enter Bolt Beranek, which had met with Worcester school officials about implementing Co-NECT. It turned out that the ideas of Shilinsky and her staff paralleled those of the Co-NECT designers. In 1992, a deal was struck to create the Accelerated Learning Laboratory with Shilinsky as principal.

"We never would have gone as far without Co-NECT," says Shilinsky, who feared that her ideas would not be embraced locally. "Being part of Co-NECT gave us credentials as a nationally accepted design."

Still, the school remains a curiosity in Worcester. Some residents are confused by the abbreviated name, "the ALL School." Some folks think it's a gifted-and-talented center, while others think it means that the school "has it all."

In fact, while the elementary site, which now houses grades K-6, was wired and given new equipment, it suffers from old deficiencies. The streets around it are marred by potholes. There is no parking lot, and the playground is a small asphalt courtyard. And while 50 percent of the students now come from outside neighborhoods, they represent all ability levels.

The intermediate site opened in a modestly sized former nursing home in the fall of 1993 with 150 students in grades 6-8. Classes are held in what were once residents' rooms. Ninth grade was added this year, and 10th grade will begin in the fall. Beginning in 1997, all students will be housed in a new building.

But as student projects and growing community involvement enhance the school's visibility, Worcester residents are slowly coming to see the all School as a center of educational innovation.

For example, since September, Worcester Police Officer John F. Mahan has worked with 31 9th graders to ban the sale and possession of pistol crossbows as part of a school unit on law and government. The weapon is sold at local festivals for about $25. It can launch a roughly eight-inch arrow through a watermelon and well into a city telephone book.

Working with Mahan, the students received help from the state attorney general's office--including a computerized set of state statutes--and testified in March before the state legislature. "I do a lot of school projects," Mahan says, "but we have never had a group of students carry something so far."

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Nancy Plante, the mother of two all School students, is a Co-NECT convert.

Her 14-year-old son, Nicholas, after doing well in primary school, was failing in a larger middle school. Worried about sending the boy to an even bigger high school, the Plantes signed their sons up for the all School.

Nicholas made an about-face and is a student leader on the weapon-ban effort. "I've never seen such close relationships between students and teachers," Plante says. But, she adds, "We're still a little nervous because it's not fully accepted by the school community."

Says Nicholas: "Traditional school is boring, and this is exciting. I don't think I could go to traditional school again."

A Difficult Change

Frank Lentvorsky, the principal of Scott Middle School in Hammond, wants all 800 of his 6th, 7th, and 8th graders in a Co- NECT model. He's halfway there, but he's not likely to get much closer.

In January, half his teachers voluntarily converted to the school's own version of Co-NECT, which includes teacher clusters and project-based learning. The other half voted not to change, and follows a traditional model.

"Traditional school worked well for some students, but there were a ton who were disenchanted or didn't like school for some reason," he says.

Despite some promising results, he doubts his entire staff will ever voluntarily convert. "You can say that there will be no peace in our time," he adds. "People get entrenched, and change is difficult."

Multi-age grouping was a big sticking point for his teachers. And while some 6th graders are thriving alongside older students, bridging the vast range of abilities between 6th and 8th graders remains a challenge. Thus, to supplement the regular classwork, teachers offer seminars in math and other topics for students.

"It requires a lot of change because you cannot rely on textbooks," says Lentvorsky. "When you get into projects, teachers have to learn with students."

Worcester teachers say that was especially true with computers. Keri Giles, who teaches grades K-2, took one computer class as part of her education major. "I was nervous because I didn't know what I was doing," says Giles, who has taught for three years.

But through staff training and with the help of her students, Giles now prepares plans and individual lessons on computers. "I can't imagine not having them."

But even at the all School, change had its casualties as five of Shilinsky's 20 teachers left rather than convert to Co-NECT.

"It was not opposition to Co-NECT as much as they didn't want to be involved with outside forces," she says.

The Co-NECT designers consider teacher support so important that they urge schools to adopt the model only after a majority of teachers votes for the change. But even that might not be enough for long-term reform, says Goldberg, who found out early on with NASDC that district commitment is also essential.

One of the first schools that had agreed to use Co-NECT was an inner-city Boston elementary school. But when district and school administration changed, so did commitment to the program. That became clear the day work crews showed up for scheduled retrofitting at the school and said that computer wiring was not on the year's schedule.

The Boston project was scrapped.

Glennan of the rand Corporation applauds the willingness of the Bolt Beranek team to make internal adjustments based on such experience. Having given its staff free rein to create, the company is also practical and flexible, he says.

He cites a new Co-NECT affiliate program, which emphasizes less initial capital expenditure on technology and more consultation. "It reflects a sense that there are planning activities that need to precede implementation," Glennan says.

Richards says the Co-NECT design is still evolving, but remains a "solid model."

"Insofar as people want to use technology, this is the way to go," he adds. "But whether the country will invest is another question."

The Core Components

The Co-NECT design identifies more than 25 school-reform strategies. Participating schools work with Co-NECT consultants to tailor the strategies to their needs. The fivecore components of the model all Co-NECT schools build around are:

School-based design: Communities plan their schools, including everything from testing methods to teaching strategies. A governance council or a similar body made up of school staff members and community members develops the vision and then monitors progress toward that vision. A community-support board promotes school involvement of families, civic groups, colleges and universities, and businesses--locally and nationwide.

Professional community: Teachers work together in small self- directed teams. They meet regularly to compare daily and long- term plans and to discuss teaching strategies. Staff members are trained to use technology to enhance communications among teachers and to create more learning opportunities for students. There is also a Critical Friends Program through which Co-NECT teachers and administrators visit each other.

Assessment: Students show mastery of challenging school standards through work portfolios. Their progress is assessed based on a set of locally developed "portfolio standards" describing what students should be able to do in key content areas.

Project-based learning: The core curriculum is integrated into projects that last several weeks and involve community resources, such as museums and local experts. Tangible products, such as exhibits, books, and reports, are the primary means of evaluation. Topical seminars and workshops are also used.

Best available technology: Computers are networked schoolwide, in part, so students, teachers, and staff members can share information any time of day. Computers are also linked to a wide range of local and world resources on the Internet. Schools and districts are urged to develop long-term technology plans.

Co-NECT School Sites

* Accelerated Learning Laboratory, Worcester, Mass. Two sites, K- 6 and 7-9. A new school will house grades K-12 in 1997.

* Scott Middle School, Hammond, Ind. Grades 6-8.

* Dzantik'i Heeni Middle School, Juneau, Alaska. Grades 6-8.

* Dade County, Fla. Three existing middle schools, to be chosen this spring, will begin using the Co-NECT model next fall.

Co-NECT Partners

* Apple Computer Inc.

* Boston College's Center for the Study of Testing, Evaluation, and Educational Policy

* Clark University, Worcester, Mass.

* Earthwatch, a Massachusetts environmental-education organization

* The Massachusetts Corporation for Educational Telecommunications

* The University of Michigan

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Carry That Weight

By Debra Viadero

What would happen if some of the biggest gurus in the education field sat down and came up with a single program for improving schools? Say someone like Theodore R. Sizer, the Brown University professor with ideas for radically transforming high schools, got together with Howard Gardner, the Harvard University psychologist whose theories of multiple intelligence are practically household words? Say James P. Comer, the Yale University psychologist, brought to the table his ideas for involving parents and the community into all aspects of school planning? And suppose those three invited Janet Whitla, who could bring the Education Development Center, a world-renowned research-and-development outfit, into the mix?

What you would get is something like the ATLAS Communities Project. Now being tested in schools in three states, the ATLAS model for school reform combines the work and the wits of Comer, Gardner, Sizer, and the E.D.C. It is among the most ambitious of the nine projects funded by the New American Schools Development Corporation, the foundation inspired by President Bush to fund promising school reforms.

Specifically, the acronym ATLAS stands for Authentic Teaching, Learning, and Assessment for All Students. But it's no accident that the name also conjures up the image of the brawny Titan of Greek mythology who bears the weight of the world on his shoulders. For that is pretty much what ATLAS is trying to do.

Not only does the project blend some of the nation's most prominent school-reform approaches, it seeks to change everything about the schools it touches, from the teaching and learning that goes on in classrooms, to the way schools are managed, to the roles played by the communities that embed them. And it seeks to do all of those things at the same time.

Now, as the early phases of ATLAS's three-year experiment come to a close, the obvious question is: Did ATLAS try to carry too great a load?

Some of the key players in the project concede that the answer is probably yes. At least, they admit, it took on more than could be accomplished in the short time frame the NASDC funders set.

"But is there an alternative?" Comer asks. "If you want good schools, you must do all of that. There are faster, easier, and quicker things to do, but they're not going to be successful in the long run."

On the surface, the separate ideas that the four guru organizations brought to the table seem to fit together as neatly as pieces of a jigsaw puzzle.

Sizer's plan for the Coalition of Essential Schools, built from the principles he outlined in his 1984 book Horace's Compromise, aims primarily at high schools. It envisions schools where teachers would have fewer students and thus come to know those they had much better. They would be places where learning wouldbe interdisciplinary and organized around questions that mattered-- "essential questions"--and where students would demonstrate what they had learned by doing projects and exhibitions rather than taking multiple-choice tests.

Comer's School Development Program, in comparison, comes from his work in the 1960's with inner-city elementary schools in New Haven, Conn. He focuses less on the content of the learning and more on developing the ideal climate in schools for nurturing children's social and emotional health and critical-thinking skills. Centered on the African proverb, "It takes a whole village to raise a child," the schools Comer envisions would be places that welcome parents, social workers, mental-health professionals, and others in the

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community and that actively involve them in important decisions.

From Harvard's Project Zero, which Gardner directs with David Perkins, comes thinking on the processes of learning, understanding, and creativity that go on in the minds of students from their preschool years through high school. Gardner made his mark with his theory of multiple intelligences, which suggests that people have many forms of intelligences, unevenly distributed.

The seven "frames of mind" that he has identified thus far range from logical-mathematical, which is the traditional kind of academic learning that schools emphasize, to less traditional intellectual spheres, such as musical intelligence and bodily- kinesthetic capacity, or the ability to use one's body in skilled ways. The job of educators, Gardner says, is to become aware of individual children's intellectual strengths and weaknesses and to capitalize on that knowledge in their teaching.

And the Newton, Mass.-based E.D.C., headed by Whitla, provides the filler. The 160 projects conducted by the center draw on a wide range of research in the field of education and provide nuts-and-bolts thinking on everything from classroom technology to training teachers.

"Each of our groups had certain things we felt we were doing well, but there were other things we didn't know much about," says Gardner. "Project Zero has lots of stuff, but not the overall envelope for school reform. The School Development Project and the Coalition for Essential Schools had a general approach to school reform, but did not have the stuff to fill into that overall envelope."

All of the four partners had met one another before and knew of each other's work. They were even located in the same part of the country--Gardner and the E.D.C. in Massachusetts, Sizer in Rhode Island, and Comer in Connecticut.

But they had never thought of collaborating until NASDC sent out word that it was looking for a few good school-reform strategies that could be replicated in large numbers of schools. The opportunity was too good to pass up.

"It was an attempt to take some people who were in some geographic and philosophical alignment and put them together to do more than any one of the groups could do on its own," Whitla says.

Together, the four organizations had toted up 80 years of experience in the arena of school reform. From their disparate programs and philosophies, ATLAS's founders eventually distilled five broad, basic principles.

For one, they agreed, "authentic teaching and learning is driven by questions; focuses on habits and understandings; and involves challenging, purposeful, and sustained work." They declared that"ongoing cycles of planning, action, and reflection characterize effective teaching, learning, assessment, and organizational change."

They decided that "relationships matter because learning is a social activity. And they called for creating a "collaborative culture for learning" through "shared leadership, commitment, and communication."

Finally, the founders emphasized, all the participants in ATLAS schools should "see themselves as part of broader, more integrated learning communities."

With that, and an initial $2.5 million grant from NASDC, the group set out in 1992 to simultaneously develop and test those principles in the real world. For its laboratory, ATLAS chose three vastly different school systems: Gorham, Me., a small rural district that had already been experimenting on its own with similar kinds of reforms; Norfolk, Va., a medium-sized urban district with a large African-American population; and Prince George's County, Md.

If, like the ATLAS of mythology, the founders of the ATLAS program were looking to shoulder a challenge, Prince George's County was the place to do it. Sitting on the border of Washington, Prince George's gets the overflowof that city's problems. It is a schoolsystem where large percentages of the students are black, poor,

or recently arrived immigrants, where bureaucracies are firmly entrenched, and where money is perennially tight.

The five schools that are part of the ATLAS project here form a geographical "pathway," a concept borrowed from Comer's School Development Program. In a pathway, the students from the elementary schools are funneled into the middle school and, in turn, into the high school. Prince George's pathway consists of three elementary schools, one middle school, and one high school, with five more schools set to explore whether to join over the coming school year.

At some of the schools in this pathway, up to 94 percent of the students come from families poor enough to qualify them for the federal subsidized-lunch program. At other schools, 44 percent of the students are recent immigrants. Among the student body in the high school, for example, more than 65 languages are spoken. In all, the 4,000 students and 400 teachers in this single pathway vastly outnumber the entire student enrollment of rural Gorham.

ATLAS makes its home here in what is known as the Challenger Instructional Center, a former convent that the school system bought in the early 1980's. Working in tandem with the county, members of the ATLAS project hope to transform this three-story, 1960's-era structure into a round-the-clock hub of social services for the families of the students who attend the schools along the pathway.

Dorothy Giersch, who is developing that part of the program, says she hopes the convenient social services will help cut the high rate of student mobility. Another benefit is that officials of the various agencies, many of whom work with the same families, are brought into closer contact with one another. In fact, one Comer-inspired feature of the ATLAS model are the periodic meetings between all the mental-health and social-service workers serving the pathway schools to talk about common concerns, such as attendance problems.

Already, the convent's first-floor rooms have been transformed into pre-kindergarten, Head Start, and child-care classrooms for children from poor families. Newly arrived immigrants can come here to register their children in the International Student Guidance Office, and parents of small children can visit the Even Start center, where they can pick up parenting skills and lessons on literacy. A county agency also uses the site to provide monthly problem-solving workshops to welfare recipients, and the Prince George's Arts Council sends visiting artists to the center's early-childhood classrooms for four weeks each quarter of the school year.

Giersch has also arranged for a van, paid for by the state, to stop at the center one day a week to provide free preventive medical care and referrals.

That is a service that Deloris Pugh, a nurse at one of the two elementary schools that flank this center, has already put to use.

"I get what I call the `Monday morning specials,'" she explains. "Parents will have noticed that something is wrong over the weekend, and they come to me and say, `What is wrong with my child?'" Now, Pugh says, she can make them an appointment with the "well mobile" so that these families can walk their child there for the medical advice they need--and often cannot afford on their own. That prevents more serious medical problems from occurring and cuts down on lost instructional time for students.

But the center did not officially open until June. And most of its former dormitory rooms are still empty. Their doors are firmly shut, and the glossy polish on the floors of the hospital- green corridors shines, still unscuffed by the hundreds of feet that ATLAS founders hope will one day tread here. Like the rest of the work here, the center is not quite complete.

Walk into any ATLAS school and you are bombarded with examples of student work--Lego models of Shakespeare's Globe Theater, a five- foot-tall Eiffel Tower painstakingly constructed of toothpicks, brightly painted papier-mch communities. That is where the "authentic teaching, learning, and assessment" part of ATLAS comes into play.

Walk into Adelphi Elementary School, however, and the exhibitions explode on you. One corridor is papered

with star-studded, black paper, and papier-mch planets hang from the ceiling. Another is transformed into an ocean floor. A child-size scuba diver, an octopus, and other creatures of the deep dangle from above.

Little more than a year ago this was, by all accounts, a tradition-bound school for students in kindergarten through 6th grade. In fact, it was among a number of schools across Maryland that lived under the threat of being taken over by the state because students in the federally funded Title I program were not making gains in their test scores.

When ATLAS arrived, the school essentially started anew. County school officials agreed to transform it into a K-3 school and to open Cool Spring Elementary School, a completely new K-3 school, nearby. Today, these schools flank the Challenger Center like matching bookends. The third elementary school in the pathway, nearby Langley Park-McCormick, became a school for upper- elementary students. County school officials also gave Adelphi's teachers the option of transferring to another school if they felt they could not buy into the program. About one-quarter of the teachers did so.

"It was a very brave thing they did when they reconstituted two elementary schools into three," says Donna Muncey, an anthropologist who has been tracking the ATLAS-inspired changes in Prince George's County as part of an independent evaluation of the project for the rand Corporation. "They just told teachers, some of whom had been teaching 20 or 25 years in the same classroom, that there was no guarantee they would be teaching in the same classroom or the same school next year."

Moreover, the school got a new principal--Cynthia Best-Goring-- and rapidly began making instructional changes. After two weeks of intensive summer workshops that covered a potpourri of school- reform ideas, the school quickly instituted multiage classrooms and began incorporating Gardner's theories of intelligence. The old basal readers were thrown out and replaced with lots of children's literature as teachers moved toward whole-language methods of teaching reading, an approach that emphasizes teaching children to learn to read much in the same way that they learn to talk.

"Every single thing those teachers were doing was new," Muncey observes.

Francesca Algarin, who now teaches a combined class of 2nd and 3rd graders at Adelphi, was one of the teachers who chose to stick out the changes.

Before, "you followed your program and the teacher's guide," says Algarin, who speaks with the accent of her native Puerto Rico. "We were supposed to keep a pace on reading, and we didn't care if they learned those words or not because we had to go on."

"When they decided to bring in this program, I said, `This is it,'" she says.

What she likes about ATLAS is that students who are not academically talented can do well. That is particularly important in a classroom like Algarin's. Of her 28 children, four speak no English at all, three speak a little English, and six speak English but prefer speaking Spanish. Two students require special education, and Algarin figures two more will probably become certified for that program next school year.

There is, for example, Alexander, the boy with close-cropped black hair who conspicuously buttons his garish gold, black, and red shirt so that his teacher will notice that it is new. Having spent much of his school career shuttling with his family back and forth between here and El Salvador, he still cannot read well in English.

"But give him something manipulative, and he can do everything," Algarin says. So he constructs a volcano with his classmates and pours vinegar and baking soda into it to make it erupt. He plants bean seeds to see if they will grow without air or soil. But, when the rest of the class reads aloud or writes, he puts his head down on his desk.

"He will plant his seed, and he will care for his seed and go to the window and see how it does, and maybe I can help him write in that," Algarin says.

At Adelphi, as at its sister school, Cool Spring, classes are organized into "neighborhoods" of five or six classrooms each. Teachers in each neighborhood are given joint planning times so they can organize their instruction around common essential questions. This semester's question is: How does exploration affect me and my world?

It takes a lot of time to map out a curriculum without a teacher's guide or textbooks. While Algarin once ended her work day at 4 or 4:30, she now works from 7:30 in the morning until 6 or 6:30 at night. Her notebooks are filled with lesson plans that look like the spokes of a wheel--her representation of the way that the skills, themes, and concepts she wants to teach interrelate.

And that is how her lessons go, smoothly weaving literature into science and incorporating writing into mathematics. An introduction to the story "Jack and the Beanstalk," for example, leads to a discussion of compound words, such as beanstalk. After the story, children map out the main characters, the essential problem, and the resolution. Then they plant bean seeds, following closely the instructions Algarin has written for them, and predicting in writing what will happen to their seeds.

"I won't go to a traditional program," Algarin says now. "I work more with this, but I don't regret it because my kids are taking responsibility for their own learning."

However, Algarin has retained some of her more traditional ways as well. On two visits, for example, she directed her hands-on activities from the front of the classroom. She also likes to maintain a quiet, orderly classroom, sometimes inhibiting the conversations that go on around the lessons.

In keeping with Comer's edicts, the school has also worked hard at bringing more parents into the building. The P.T.A.., once practically nonexistent, now has more than 100 members. And Best- Goring has set aside a room where parents can work with teachers or students when they visit. Thirty-five parents used it in February; 20 in January.

"I feel happy that everybody here knows who is me," says Ana Vasquez, the parent of a kindergartner as she sips coffee in the main office and chats in Spanish with the school secretary. She frequently drops by the school to see that her son eats the breakfast he gets through the federally subsidized breakfast program and that he pays attention in class.

"At the beginning of the year, teachers were nervous, and they were anxious because the security blanket had been pulled out from underneath them," Best-Goring says. "But everything came together in January or February." Teachers who earlier in the year had asked to transfer to other schools came to Best-Goring in the spring and told her they had changed their minds. What's more, the school last month learned that the test scores of its Title I students had improved dramatically for the first time in years, making it likely that the school will get off the state's endangered list.

The school still has its share of problems. Monthly attendance, for one, doesn't always quite meet the county's expectations.

"But at this point," says Muncey, "teachers seem to be pretty pumped up."

"Maybe this year we are not going to get all the results we're looking for. But you come back next year, maybe two years from now, and you are going to see that this school is a success," Algarin says. Then she gives a visitor a hug.

What's important to realize about the ATLAS project, however, is that it looks different in every Prince George's school and in each school system that's trying it out. At Cool Spring, Adelphi's new sister school, educators also have worked hard to teach in ways that build on their students' multiple intelligences and have discarded their textbooks. But their focus has been on creating settings where students who do not speak English or who have disabilities don't have to be repeatedly pulled out of classrooms for special instruction.

In classrooms here, you can find English-as-a-second-language teachers whispering in the ears of children, translating unfamiliar words as the teacher reads a story to the whole group. Sometimes, these teachers even participate actively in the lessons so that it becomes hard to tell who is the classroom teacher and who is the specialist.

This arrangement is not specifically part of the ATLAS design plan. But the plan does call for sharing the decisionmaking that goes on in schools and allowing those decisions to be made at the school site, rather than at school-system headquarters, which are located in a rural part of the county, more than a half-hour drive and a world away from here.

"This was something teachers had created because they recognized the fact that there were so many pullout programs and that that was fragmenting the instructional program," says Bill Ritter, who oversees the entire ATLAS project in Prince George's County.

At all of the ATLAS schools here and in Maine and Virginia, the mechanism for making those kinds of decisions is the "school planning and management team," a body made up of administrators, teachers, students, parents, support staff, and members of the community. Meeting weekly, these teams tackle everything from coming up with a comprehensive plan for improving their schools to deciding what to do about a lack of playground equipment at recess or frequent interruptions on the public-address system.

At Cool Spring, the shift to more inclusive classrooms has been hard. Some teachers saw the specialists as intruders; others welcomed them. But some of those teachers now say that teaming up with specialists seems to be paying off, at least for students who are newcomers to this country.

"I taught at another school last year where they used more traditional basal readers, and you would see the E.S.L. students grow at the end of the year," says Troy Boddy, who teaches 5- and 6-year-olds at Cool Spring. "This year, there's been a turnaround because the E.S.L. kids are really doing some of the best work, and we're getting into their minds."

Meanwhile, at elementary students' next stop on the pathway, Buck Lodge Middle School, the focus over the past year has been largely on projects and exhibitions. Students use a computer program developed by the E.D.C. to produce thick research projects called "I-search" papers. Slightly different than a formal research project, the program helps students trace in writing the story of their research. What question did they begin with? How did that question change as they researched the subject? What did they learn? The answers to these computer- generated prompts form the text for their reports.

Students choose their own topics in keeping with the essential question on which the school is focusing, and they spend weeks researching and compiling their reports.

"You feel like you made up the whole report for yourself," says Angel McNatt, a Buck Lodge 8th grader who wrote about racial violence. "My mom was impressed when she saw I wrote all this, 'cause I be watching TV all the time and she was, like, 'You really did this?'"

And, at High Point High School, the only high school in the pathway, the most visible and dramatic change has been a move to block scheduling la Horace's Compromise. Rather than have six 54-minute class periods each day as had been done in the past, the school this year arranged for students to take seven 90- minute classes that meet every other day. The idea is to give students and their teachers more uninterrupted time for in-depth learning. Teachers also get additional time for lesson planning.

When ATLAS began, its organizers joked about backing a big Hertz rental truck full of reform practices up to schools and letting educators pick something from the School Development Program, something from Project Zero, something from the Coalition of Essential Schools, and something from the E.D.C. But, in Prince George's County, it looks like that's exactly what ATLAS did. That kind of spottiness extends as well to the reforms going on within individual schools. At High Point and Buck Lodge, for example, teachers were asked in this first year to devote just one class to requiring students to show what they'd learned through student-made performances and exhibitions, rather than using traditional teacher-made tests to assess student learning. Other

than that, they are free to pick and choose from other things in the ATLAS storehouse.

That was not precisely what ATLAS reformers had in mind. Atlas's founders never intended to produce a "cookie cutter" design for school reform. Yet, they reasoned, you should be able to distinguish an ATLAS school from everything else that is going on in education reform.

"It shouldn't take 20 minutes to explain what ATLAS is," says Gardner.

But it was also inevitable that, in these first-generation ATLAS schools, the project would take on distinctly different configurations. That is in large part because ATLAS itself did not know what it was until halfway through the project. Its design summary underwent revision after revision and is, even now, expected to undergo further streamlining as the ATLAS vision crystallizes.

"Much of the first year was devoted to getting the organizational structure, getting past turf issues, and dealing with everything from different operating cultures to some different views of the work we were doing," says Sid Smith, who recently stepped down as the group's executive director to return to working in schools.

"Some of the other NASDC projects came with a design, but we didn't have one," he continues. "We had four different programs with a potpourri of activities and different principles. It was like putting a car together, not to mention changing the tires, as it's moving 45 miles per hour."

"I think we all thought it would be easier to become compatible than it was," Gardner adds.

For one thing, there were some philosophical differences. While Sizer's group favored thematic, interdisciplinary instruction, Gardner advocated working within the traditional academic disciplines. The group also split over how much professional development it should provide and how structured that help should be. The meaning of "personalizing teaching" also varied among the groups. To Sizer's group, it meant having fewer students. To Comer, it meant knowing the "whole child." To Gardner, it meant understanding individual children's intellectual strengths. The groups also argued over where to start. Should school-management structures be overhauled first or the curriculum?

The four organizations also had operating styles that ranged from the highly structured to practically laissez-faire. "Intellectually, these organizations were very much in sync, but the exact strategies they might use to effect change were very different," says Muncey, the anthropologist tracking the project.

In the meantime, however, the pilot schools that called up ATLAS's central organization looking for help got different answers, depending on which organization they talked to.

"We were pretty much left to our own devices," says Ritter, the coordinator in Prince George's County. "Things were very volatile for awhile." Members of the project there decided to take much of their form from Maryland's new performance-assessment system, coming up with a set of standards and benchmarks for the pathway schools that adhered closely to the requirements of the assessment program.

Recognizing the problems, ATLAS officials decided to make some changes. Each of the four organizations had staff members working full time or part time on ATLAS at their separate home bases. The founders decided to consolidate nine full-time ATLAS employees in one central location at the E.D.C. headquarters.

With funds from three private foundations, the group also formed something called the ATLAS Seminar, which has become a sort of think tank for the project. It serves as both the research-and- development arm for ATLAS as well as a forum for hammering out or clarifying substantive differences among the organizations.

What's more, it completed the design that set out five broad principles and seven elements for ATLAS schools.

"I think they're compatible now," Smith, the former executive director, says. "There are some philosophical differences that remain which serve as good sources of critical inquiry about our work."

"By and large, there's enough glue to pull us together," he adds. "In future sites, you'll see a lot more coherence and consistency across sites."

"We've been around this work long enough," Sizer adds, "to know we have to be patient."

A yellow Prince George's County school bus makes its way daily among all the ATLAS schools in the pathway here. It takes high school students to middle school, where they might "teach" a class of younger students. From the middle school, it takes members of the "buddies" club, a group of adolescent boys who are considered to be at some risk for heading down the wrong fork in the road of life, to work with preschool children and to learn something about role-modeling in the process. Parents can also ride the bus to use the services at the Challenger Center.

This is the most visible symbol of the pathway here. And, if you had to put your finger on the most distinguishable ATLAS characteristic in this school system, the pathway would probably be it. While most school systems have feeder schools, the difference here is that all of the schools in the pathway get together to decide what makes sense educationally for children from their preschool years through high school.

The policymaking body for the pathway is the ATLAS Communities Team, or act. Made up of principals, a few key teachers, and parents from all the pathway schools, act meets monthly to discuss common problems and concerns and to hammer out a coherent plan for students' learning from preschool to high school.

"As teachers, we get a real sense of what the pre-K to kindergarten program is," says Jerry Kountz, who, as Buck Lodge's principal, is smack dab in the middle of this pathway. "It's not, `What are those people doing down there at the elementary school?' You know what the elementary school is doing, and you know exactly what the high school is expecting."

Prince George's act has spent much of its time thus far crafting standards and benchmarks for what students at all five schools should know and be able to do--a curricular map that dovetails closely with state requirements in Maryland. Fortunately for these schools' efforts, the county has allowed them to be exempt from its criterion-referenced test, which emphasizes facts-based learning.

The state's performance-assessment program, in contrast, already reflects the kind of authentic teaching, learning, and assessment that ATLAS participants are trying to bring about in their schools. The project is planning its own assessment to take place during the off years for the state-testing program. And it will begin unveiling the new standards and benchmarks to the public over the coming months.

The ACT panel is meeting for the last time this school year on a balmy June afternoon. It is 4:30. School has been out for hours, and a warm breeze flows into the open windows of the meeting room, which is a former classroom on the second floor of the Challenger Center.

Participants are being asked to reflect on their three years with ATLAS here, so there's a lot of discussion of what went wrong and what went right. There is a sense, at least among these participants, of having come a long way.

"One image I have is that, at first, we were sort of exploring; where we opened a National Geographic and saw a flatrelief of the Grand Canyon," says Paula Poulis, Cool Spring's principal. "Then, in August, they put us on the floor of the Grand Canyon looking up, and we've been climbing, tripping along the way, and occasionally seeing glimpses of the beauty."

The ATLAS schools here have all made some changes but, as rand's Muncey observes, "it's been slow going."

"I suspect you're beginning to be a true ATLAS school in three to five years," Corner says. Muncey, on the other hand, figures 10 years would not be an unreasonable estimate for schools in a large, urban school system such as Prince George's. Sizer concurs.

"I would hope that if ATLAS is going to continue and move to new sites, that they don't abandon current sites

in the project," Muncey adds.

That is a worry for Prince George's. Under the terms of the NASDC grant, ATLAS's central organization must now set its sights on creating new schools in the same mold. Prince George's County's first crop of ATLAS schools will get a smaller grant from the central organization this coming school year.

But ATLAS's founders say they have no plans to leave behind their pioneer schools. Atlas Central will allow the Prince George's schools to carry over into next year $120,000 in unspent funds from this year. Moreover, the organization will still offer technical advice and other in-kind assistance. And the five first-generation ATLAS schools here will continue to be linked electronically to their colleagues in Maine and Virginia, and at other sites, such as Florida and Pennsylvania, where schools are deciding whether to join the project next year.

The hope is that the rest of the money the county needs to consolidate the gains it made this year will come from the school system. Edward Felegy, the school superintendent, has recommended fully funding Ritter's job--as well as those of the ATLAS coordinators at the pathway schools--for another year.

"We need to let this project continue to percolate because real change is only now evolving," says Felegy, who has been a strong supporter of the project. But Felegy left the school system in June after a somewhat rocky tenure. His successor is Jerome Clark, a longtime employee of the district and its first African- American superintendent. Moreover, the school system's administrators are grappling with another shortfall this year.

Even if the necessary funds are not forthcoming, the teachers and administrators most closely involved with the project say they will not go back to the old system. At High Point High School, Principal John H. Payne even offers solid proof that teachers are embracing the changes: Not a single teacher at the school asked to transfer this year. Even more impressive, more than 100 asked to transfer into the school this spring.

More good news for the project came just weeks ago. On ATLAS's "school climate" surveys, which reflect everything from teacher morale to whether students feel cared for, all three pathway schools improved in some areas this school year.

Reflecting on how far she has come, one teacher at the June act meeting got teary-eyed.

"To feel the same challenge that you felt as a first-year teacher, to me, is incredible," she tells the 25 other educators at this end-of-the-year session. "It's very exciting to have every day be a learning experience."

The Design Principles

The schools and districts that belong to the ATLAS Communities focus on five principles and nine design elements. The principles hold that:

Authentic teaching and learning is driven by questions; focuses on habits and understanding; and involves challenging, purposeful, and sustained work. Students acquire essential skills, habits, and understandings when engaged in challenging and meaningful learning activities that are coherent, sustained, and driven by essential questions. [The] goal is to move beyond superficial learning to deep understanding of the most important concepts and principles within the content areas. To reach deep understanding, students must actively construct, apply, and demonstrate their knowledge over time. The same is true for adults in the learning community.

Ongoing cycles of planning, action, and reflection characterize effective teaching, learning, assessment, and organizational change. Continuous improvement in education, whether at the individual, classroom, school, or pathway level, calls for an ongoing cycle of planning, action, and reflection. It also calls for a creative, problem-solving mindset. Such a process and orientation have a powerful impact on the learning environment that, in turn, shapes the people who take part in it.

Relationships matter because learning is a social activity. Teaching and learning are most successful when they

occur in the context of valued relationships. Teachers must know students well to teach them well. Likewise, the adults in a learning community must know each other well to work in concert to achieve their goals for students. This is the context in which valuable habits of heart, mind, and work are formed.

Shared leadership, commitment, and communication build a collaborative culture of learning. Building a positive school culture requires shared leadership, commitment to a collective vision, and an understanding of the ongoing nature of change. Effective, ongoing communication and coordination within schools and across the K-12 pathway are essential both to meet the developmental needs of all students and to manage this change process in a no-fault environment.

Members of ATLAS schools and pathways see themselves as part of broader, more integrated learning communities. Quality education requires partnerships among school personnel, students, parents, policymakers, and other key stakeholders in the community. Only in this way can we identify the assets and effectively use the resources for learning that exist inside and outside of schools.

ATLAS School Sites

* The school districts of Gorham, Me.; Norfolk, Va.; and Prince George's County, Md. ATLAS Partners

* The Coalition of Essential Schools

* The Education Development Center

* Harvard University's Project Zero

* The School Development Program